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Colonial Treasurer.

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VOL. I.—7TH YEAR.

SYDNEY: SATURDAY, MAY 29, 1920.

No. 22.

## SPECIAL MILITARY SURGERY.<sup>1</sup>

By **Reginald Davies, O.B.E., M.B., Ch.M., F.R.C.S. (Ed.),**  
Honorary Assistant Gynaecological Surgeon, Royal Prince  
Alfred Hospital; Honorary Gynaecological Surgeon,  
St. Vincent's Hospital, Sydney.

It is with great pleasure that I have accepted your very kind invitation to deliver an address on "Special Military Surgery" to this meeting of the Western Medical Association.

While, as a gynaecologist, I feel a certain diffidence in encroaching upon the preserves of the orthopaedic surgeon, I feel that I may be forgiven for attempting to impart for the common weal some of the information that I was able to gather during my twenty months' association with Sir Robert Jones in the work of reconstructive surgery. Here it would be appropriate to add my small voice to the chorus of praise that has sounded world-wide to that truly great man.

Sir Robert Jones, gentlemen, is a man whom to meet once is to like and to admire: to work for and with him is to learn to love him as a man of great heart and outstanding genius, always ready to give unstintingly of his great store of knowledge, slow to blame, quick to praise—a great surgeon, a true British gentleman. No phrases of mine can adequately express my admiration and respect for him.

"Special Military Surgical Hospital" was a name adopted for those hospitals where reconstructive surgery was carried on, the word "surgical" replacing "orthopaedic" because of a certain jealousy aroused in the breasts of members of the staffs of the previously recognized orthopaedic hospitals in London. My paper may therefore be otherwise described as a paper on "Reconstructive Surgery as Applied to War Conditions."

You will agree with me that such a title covers an area which no single paper could hope to encompass. For its shortcomings I therefore beg your indulgence in advance.

Certain principles are involved in a consideration of special military surgery; they are:

- (1) The preservation of life.
- (2) The elimination of chronic sepsis.
- (3) The restoration of function.

The first two principles are only means to an end—the restoration of function. We may therefore define reconstructive surgery as surgery undertaken with a view to the restoration of function.

War injuries differ from those of civil practice in that they are in themselves usually more severe; they are received very frequently under conditions which render early satisfactory treatment, under suitable conditions, impossible; and, further, a most important consideration, they are very frequently associated with a psychological element. The mental strain of warfare, pain and discomfort, the fear which so

often comes to brave men who have never previously known the meaning of the word, when they find themselves wounded, but still liable to damage from shell-fire or bombs, the prolonged period ultimately spent in hospital, the condition of chronic alcoholism, which, in England, at least, seemed often inseparable from long sojourning in hospital, induced a mental attitude on the part of the patient which is a grave obstacle to functional recovery.

What, then, are the procedures of reconstructive surgery? They involve a correct and exhaustive anatomical and pathological diagnosis. It is not sufficient to say, for example, that the patient has an injury of some nerve plexus. The definite injury to the component part of the plexus must be diagnosed, and this presupposes an exact anatomical knowledge.

If one muscle of a group supplied by a certain nerve is obviously paralysed, it is necessary to make an exact estimation as to whether all the other muscles of the same group are similarly out of action; in other words, whether the injury to the nerve is partial or complete.

Similarly, in the case of a joint disability, is the injury within the joint itself, or is it confined to the structures surrounding the joint, or is it both?

Correct diagnosis, therefore, involves on the part of the surgeon an exact knowledge of anatomy, including that of the functions of the body components, a sound knowledge of pathology and a considerable experience of reconstructive surgery. For nerve injuries, of course, the use of the faradic and galvanic currents, with the accurate information supplied by them as to the condition of the muscle-nerve "preparations," so to speak, is invaluable, while with regard to bone and joint injuries the correct reading of X-ray plates is invaluable.

The diagnosis made, we come to the question of treatment and this may, I think, be considered most usefully under the following heads:

- (1) The elimination of chronic sepsis in bone.
- (2) Non-union and vicious union of bones.
- (3) Injuries to nerves.
- (4) Tendon transplantation and tendon fixation operations.
- (5) Physical treatment.

### (1) The Elimination of Chronic Sepsis in Bone.

Pathology shows us that the cause of chronic sepsis in bone is the presence of a sequestrum. Rarely is it due to the presence of other foreign bodies, such as fragments of projectile, clothing, etc.

The difficulty of dealing effectively with this condition is due not to the intrinsic difficulty of removing the sequestrum by operation, often difficult enough where the sequestrum lies embedded behind new bone formation at the site of a very imperfectly consolidated fracture, but to the fact that the cavity in which the sequestrum lies is surrounded by sclerosed bone and cicatricial tissue. Simple removal of the sequestrum only leaves a cavity with unyielding, unhealthy walls, with poor blood sup-

<sup>1</sup> Read at a Meeting of the Western Medical Association at Dubbo, New South Wales, on April 28, 1920.

ply, asking nothing better than that the soft tissues above it should heal up, so that with the help of the micro-organisms which it contains in abundance it may be able to manufacture in due course yet another sequestrum.

There are only two successful methods of procedure in those cases, in my opinion:

1. The Broca operation, which consists in opening down to the diseased area of bone by a long incision, exposing the bone well above and below the area of trouble. How difficult and dangerous this may be when the area of trouble is close to the knee-joint, for example, has only to be thought about to be realized.

The primary incision should follow the most accessible route and should, if possible, include the sinus which is excised at the same time. In the case of the femur the incision should always be along the outer surface of that bone.

The periosteum, having been incised, is elevated from the whole bone at the site of damage. A probe in the sinus is then followed to the sequestrum and all overhanging and sclerosed bone surrounding the cavity in which the sequestrum is lying, is chiseled away, the object being to leave a flat groove, surrounded by healthy, bleeding bone. It is frequently impossible to remove sufficient of the circumference of the bone to arrive at this *desideratum*; in that case all that can be done is to remove the sequestrum, to clean away as much of the surrounding unhealthy tissue as possible, to rub the surfaces over with bismuth-iodoform paraffin paste (B.I.P.P.), to wash all excess of that material away with alcohol and to pack with gauze, and wait in the confident assurance that the superficial wound will heal, but that it will at some subsequent date again almost assuredly break down. In the meantime, however, under improved conditions, the consolidation of the fracture may so increase that at a subsequent operation it may be possible to chisel away the bone cavity properly and to deal with it as in the complete "Broca" operation. Such a cavity, impossible of treatment by the complete "Broca" operation, may, under suitable conditions, be usefully treated by the method of Carrel and once sterilized the soft parts may be closed by suture. It must not be forgotten, however, that a potential cavity remains, sterilized perhaps as to its contents, but surrounded by unhealthy bone containing micro-organisms. The wound will probably break down again, with fresh abscess formation inside twelve to eighteen months.

We return to cavities which have been properly bevelled. The cavity, having been converted into a shallow groove, is then filled by:

(a) Allowing the soft tissues, if they will do so, simply to fall upon the groove and fill it.

(b) If it is evident that this will not happen, a long muscle graft is cut from a surrounding muscle, with its base to the end from which its main blood supply is derived. This graft is laid in the groove and fastened in by a few stitches in the superimposed tissues. The wound is then closed with 48-hour drainage. A small sinus results as a rule, which soon heals if the bone cavity work has been properly performed. Where no muscle or fat tissue is available at the site of operation a free fat graft may be used,

for fat resists sepsis very well. In my hands free grafts were not very successful.

Where the bones are more or less subcutaneous, or, at any rate, not deeply situated, bone cavities can be successfully treated by cleaning out, removal of sclerosed surrounding bone and packing. The only difficulty is that the daily dressings—in my opinion the dressings must be daily dressings—must be done by the surgeon himself, with absolutely rigid attention to aseptic technique. Daily packing with gauze soaked in Dakin solution and rubbed up into a lather with soap solution makes an ideal dressing, which, after the first 48 hours, is painless to remove. The soap, I think, protects the newly-forming granulations. The sclerosed bone may be slow in forming granulations, in which case probably not sufficient bone has been removed. The formation of granulations can be stimulated by painting the bone cavity with 10% nitrate of silver solution. As a routine I used this painting every second or third day and got most excellent results.

May I call your attention to the facility with which you can spread erysipelas in a ward by the use of a nitrate of silver pencil? I know, I have done it.

Cavities in the upper and lower extremities of the tibia are notoriously difficult to handle. I obtained most success by cleaning out the cavity to a large-mouthed cone, sterilizing it by the Carrel or other suitable method. Then, as soon as the bone was covered by granulations, I took a model of the cavity in sterilized dentists' wax, laid Tiersch grafts upon the model and inserted it into the cavity, covered the wound for a fortnight and removed the wax, leaving the cavity with skin graft adherent to it.

A considerable amount of work has lately been done in England on latent sepsis in apparently soundly healed bone. Hæmolytic streptococci of full virulence have been found embedded in sound bone formation. Cultures have been made and a sensitized streptococcal vaccine has been prepared. A recent War Office recommendation practically ordered the prophylactic use of this vaccine. My own series of cases was not sufficient to enable me to form a definite conclusion for or against its use. My own impression was that it was useless and in some cases seemed to do actual harm.

#### (2) Non-Union of Bones.

Non-union of bones may be due to splinting effect of another bone, as in the case of the radius or ulna, or to faulty splinting by the surgeon, most often seen in the case of the humerus. In practically every case, in my opinion, non-union of the humerus—that bugbear of reconstructive surgery—is due to the dependent position of the limb tending to allow the weight of the forearm to counteract the normal pull of the muscles of the arm. A gap between the ends of the bones is allowed to occur, cicatricial tissue forms and non-union results. It is easy to say: "Splint the humerus correctly." In practice, with a large septic wound of the arm, it is extraordinarily hard to do. Whenever possible, the humerus should be splinted by padding and by bandaging to the side, with firm strapping to hold the elbow up to the shoulder of the same side. No extension by a weight, or otherwise pulling the elbow away from the shoulder, should be used.

There are only two methods of repairing non-union:

- (a) By a bone graft.
- (b) By a stepping operation.

(a) Bone grafting should not be attempted until six months at the very least have passed since all outward and visible signs of sepsis have disappeared. To this end it is frequently necessary or advisable to do a preliminary bone operation, to remove unhealthy looking projections, etc., and to excise at the same time as much scar tissue as may be possible. This preliminary operation should leave the future field of operation covered with healthy, well-nourished skin. Enough skin may not be available to do this, and it may be necessary in the upper extremity to graft on by a pedicled graft or by a pocket graft taken from the abdominal wall a sufficient area of skin and subcutaneous tissues to produce a really healthy field of operation. Six or more months later then the surgeon may proceed to do the actual bone graft.

Experimental work has shown that the graft, consisting of periosteum and compact and cancellous bone and containing in its spaces and in the deep layer of periosteum osteoclasts and osteoblasts, acts in reality as a splinting bridge. Its structure is absorbed by osteoclasts, in the wake of which osteoblasts lay down new bone formation. This process is going on at both ends and all surfaces of the graft at the same time; the osteoclasts and osteoblasts of the grafted bone attack the graft in similar manner. In due course the graft becomes one with the grafted bone.

As to the manner of performing the operation, I am sure that too little attention is usually paid to the necessity for disturbing as little as possible the nutrition of the bone to be grafted. One so often sees a bone cut down upon, stripped of its periosteum all the way round for 15 to 20 cm., a slot cut in it by a double-bladed electric saw, the blades of which too frequently are allowed to become over heated. A graft is cut by the same saw and possibly damaged by heat in the same way, and the grafting is a lamentable failure. Where the margin for success is so small, attention to detail is very necessary. I like to perform a bone graft operation with the strictest attention to the following details:

(i.) Rigid asepsis. No person's gloved fingers are allowed to touch the wound or any swab or portion of instrument which touches the wound.

(ii.) Incision down to the periosteum and separation of soft tissues, with the minimum amount of separation of those soft tissues from the periosteum.

(iii.) Incision of periosteum and its separation from the bone for the full length of the graft, but only for a width equal to the width of the slot to be cut.

(iv.) Cutting of slot by gouging nippers, of which several varieties designed for cranial surgery, if properly used, will cut a line as straight as any saw.

(v.) The graft is then cut from the subcutaneous surface of the tibia, by preference with a hand saw, and is transferred directly to the slot by instruments, where it is fastened in place by several kangaroo tendon sutures passed completely round the bone by a suitable curved needle.

The difficulty of bone grafting operations lies, not

in the operation itself, but in the distortion of the united fragments which is so frequently present and which makes it very difficult to restore good alignment without an amount of trauma, which greatly prejudices the hopes of success. Much may be done beforehand by an intelligent use of plaster of Paris to correct these deformities of alignment.

I attach great importance, therefore, to the absolute necessity in bone grafting of rigid attention to asepsis and a reduction of trauma to a minimum. No clumsy operator need ever hope to do a successful bone grafting.

The after-treatment consists of dressing and splinting for ten days, after which, in the absence of sepsis, the parts may be enclosed in plaster of Paris for three weeks, when the plaster may be divided and the patient handed over to the massage department. In my opinion, a protective splint should be worn for at least six months. A perfectly healthy-looking graft will snap very easily. A suppurating graft should at once be freely exposed and in the continued presence of sepsis removed.

(b) The stepping operation is especially called for in the case of the humerus. I do not think a successful bone graft of the humerus has even been performed for a non-union resulting from a war injury. Certainly I saw many failures, but no successes, at Shepherd's Bush. I am, of course, probably quite incorrect in making such a sweeping statement; but I regret to say that I have had no opportunity of looking up the literature of the subject. The operation itself consists in cutting steps at least 1.8 cm. or, better, 5.5 cm. long in the upper and lower fragments, fitting them together, ligaturing with tendon and splinting. The steps should be deep to half the diameter of the bone.

A short arm results, but, as one or more important nerves are frequently at the same time involved, the shortening of the arm produces a relative lengthening of the nerves, which allows the cicatricial portion to be excised and the ends reunited by suture.

#### (2a) Vicious Union of Long Bones.

Unless absolutely necessary, no attempt should be made to correct a deformity due to a vicious union in bad alignment, when the consolidation is sound, by any operative measures at the site of fracture. Such an attempt may easily result in lighting up sepsis, even after an interval of 3½ years or 2½ years after the wound healed. My last operation in England was of this nature, and I regret to say that it resulted in 4½ days in the death of the patient from acute septicaemia, although his wound had been soundly healed for 2½ years.

An osteotomy in sound bone at a short distance from the site of fracture will give the same outward result, though the X-ray picture may look somewhat weird.

#### (3) Injuries to Nerves.

Injuries to nerves may be partial or complete. When complete they, of course, result in the complete loss of control of the muscles supplied and by their subsequent degeneration. The diagnosis presupposes on the part of the surgeon an exact knowledge of anatomy and an ability to use a galvanic and faradic testing apparatus. We are only con-

cerned in a general paper such as this with a few of the practical points surrounding nerve surgery. You may take it for granted that when a motor nerve is divided, the vital elements, i.e., the axis cylinders, in the nerve distal to the seat of injury degenerate and are absorbed, leaving behind their empty cylinders—the sheaths of Schwann.

Repair of such a nerve can only take place by the down-growth into these sheaths of active nerve elements, the axis cylinders contained in the similar sheaths of the proximal half of the nerve. Now, immediately a nerve is divided, the axis cylinders of the upper end grow out like snails' eyes, looking for somewhere to go. They are met by newly-forming cicatricial tissue and they curl up, split and bend back on themselves, forming a true neuroma, the same form of neuroma as is seen in amputation stumps. On the lower end of the nerve is a neuroma similar in shape, but a false neuroma, in that it is formed chiefly of proliferated cells from the sheath of Schwann; it contains no axis cylinder elements at all.

To repair such an injury it is necessary to isolate the nerve over a sufficient length to enable the surgeon to excise these neuromata completely and to allow him to unite the remaining ends without tension by suture of the sheath. In dissecting out a nerve the greatest gentleness should be used. It should not be pulled upon nor mauled about. It should not be dissected out clean; but should rather be taken with fragments of surrounding tissue. No attempt should be made to find the nerve at the site of injury. The surgeon should keep wide of this and trace the nerve up and down. He will have to do it later in the operation, in order to get the ends together and it will greatly simplify the operation to do it first. The man who can cut straight down upon the median nerve in the middle of scar tissue in the middle of a badly damaged forearm and find it at once is, well, shall we say, lucky. Lower down and higher up, however, its relations are so simple that the operation becomes easy.

The nerve isolated, the true and false neuromata are removed by successive razor cuts, until the pointing axis cylinders of the upper end and the absence of scar tissue and the similar appearance of the lower end show that healthy tissues have been reached.

The nerve sheath is then sutured by five or six stitches of finest silk and the wound closed.

Posture of limb is important for giving length, as, for example, the wrist flexed, the elbow flexed, the arm adducted and bandaged to the side allow a gap of anything up to 15 cm. to be bridged in the ulnar nerve if the nerve is displaced from its usual position and brought to the front of the elbow. This operation requires an incision from the wrist to the middle of the upper arm.

Similarly, large gaps can be bridged in the sciatic nerve by extending the thigh at the hip and flexing the knee. This is a most painful and uncomfortable position for the patients for the first five days, which he can only be induced to maintain, as a rule, by putting on a long anterior splint from knee to breast. The splint hurts him very considerably in the ribs if he attempts to roll over and flex his thigh.

After-treatment of nerve suture cases will be referred to later in this paper.

#### Résults of Nerve Suture.

In the sciatic nerve and its main branches excellent and comparatively rapid recovery follows a well-performed operation.

In the musculo-spiral nerve excellent results are achieved, though it is difficult to obtain the necessary amount of relative lengthening. For this purpose the nerve can be brought to the point of the arm, which gives about 2.5 cm. to 3.75 cm. of added length.

Good results are obtained after suture of the median nerve. The results of suture of the ulnar nerve are generally less good, owing, I think, to the fact that the intrinsic muscles of the hand supplied by the ulnar nerve are such delicate muscles that they degenerate very rapidly. As, owing to a variety of causes, nerve sutures are so frequently done after a long interval has passed and as electrical stimulation of these small muscles has so frequently not been attended to, it generally happens that the muscles are almost completely degenerated before the surgeon has any opportunity of repairing the damage.

#### (4) Tendon Transplantation.

Where irreparable damage has been done to the nerve, it is sometimes possible to improve affairs by the operation of tendon transplantation. The most striking example of this is the operation for total destruction of the musculo-spiral nerve. As you will remember, this causes complete extensor paralysis of the wrist, fingers and thumb.

A transplantation of the *pronator radii teres*, elevated from its insertion into the radius and stitched to the *extensor carpi radialis longior* and *brevior*, of the *flexor carpi ulnaris*, brought round from the front and stitched to the *extensor communis* and *extensor secundi internodii pollicis* and of the *flexor carpi radialis* to the *extensor ossis metacarpi* and *extensor primi internodii pollicis* enables the patient, after suitable training, to extend his wrist, his fingers and thumb by separate actions.

Tendon fixation is sometimes valuable, as, for example, in complete paralysis of all anterior tibial muscles. In this operation the anterior tibial muscles are divided about 15 cm. above the ankle-joint, a hole is bored through the tibia behind the crest, about 10 cm. above that joint, the divided lower ends of the tendons are pushed through from side to side and sutured, the foot being put up in plaster in the position of greatest possible dorsi-flexion. A certain amount of give always follows, and the result is that the action of the *tendo Achilles* is able to hold the foot rigidly at a right angle, when it so desires, relaxing to allow the foot to be dorsi-flexed by the body weight in walking.

I am all too conscious, gentlemen, of the imperfections of this paper. I find that it is impossible to traverse all the ground of reconstructive surgery. It is not possible, for instance, to touch upon the treatment of joint injuries, the stiff hand and so on. It is wise to point out this truism, that the surgery of the upper extremity is the surgery of the hand. All procedures must be aimed at producing a useful hand.

#### (5) Physical Treatment.

Lastly, all possible operative measures having been performed, there remains to us a consideration of the various other methods comprised in physical treatment which are of use in restoring function.

I think it safe to say that if the principles of physical treatment had been thoroughly understood and applied, more than half the work of reconstructive surgery would not have had to be performed and much needless suffering would have been avoided.

Take, for instance, the question of the treatment of fractures! How many thousands of times during the war have fractured femora or tibiae been splinted in good alignment and allowed to consolidate without any consideration for what was happening to the patella, to the *quadriceps*, to the posterior tibial muscles, to the toes! Daily massage and electrical stimulation of the *quadriceps*, free moving of the patella, massage of the leg muscles, free movement of the ankle-joint and of the toes through their full range of movement would have saved many stiff joints and much needless suffering.

Remember always that an adult hand will get stiff if the joints are kept fixed. Sepsis and nerve injury predispose to stiffness of the hand; but the actual exciting cause is fixation, extending over a long period. It does not matter whether the fixation is produced by splinting or by allowing the patient to consider his hand too painful to move.

#### The Methods of Physical Treatment.

The following methods of physical treatment are employed:

1. Re-education. It is the ultimate aim of all physical treatment. The patient must be re-taught how to use the damaged part. To this end:

2. Galvanic and faradic stimulation is used. The interrupted galvanic current is used to restore tone and structure to paralysed muscle while waiting for the return of nerve control. Where the muscle-nerve unit exists, but is out of function, faradic stimulation is used, always to be followed by voluntary effort. The patient is taught and encouraged to reproduce voluntarily the movement which has been produced electrically. He must be made to give his whole attention to what is happening while his muscles are being electrically excited, so that his cortex may relearn to take an intelligent interest in what is happening and in the movement produced by each muscle. How often do we see a patient in whom a damaged nerve has recovered, and yet the limb is useless. It may be useless from over-stretching of paralysed muscles, from their atrophy, or from joint stiffness, all conditions preventable by physical methods, had they been applied at the correct time.

The interrupted galvanic current is therefore used for excising paralysed muscle. The graduated faradic current is used in all cases of muscle atrophy in which the nerve is intact and for the re-education of muscles after tendon transplantation; the *flexor carpi ulnaris*, for instance, is made to extend the fingers and thumb and the patient is then encouraged voluntarily to reproduce the movement.

3. Massage is especially useful in all cases in which oedema is prominent and when circulatory changes on the skin are evident. It is more usefully employed following heating of the part.

4. Baths are useful as a means of treating the part; patients like them and gain confidence from their use.

5. The usefulness of the gymnasium seems to me to depend chiefly upon the skill and enthusiasm of

the instructor. It is undoubtedly of great value in the later stages of recovery from joint and muscle injuries.

6. Mechano-therapy, again, is of use in the later stages of joint recovery. It is obvious that the results will vary from good to practically nil, according to whether the patient is himself capable of taking an intelligent interest in what the machine is doing. I think you might put it that the man should drive the machine, not sit passively smoking a cigarette and thinking of Randwick races while the machine drives him.

7. Curative workshops. The subject opens up a fruitful source of discussion. My personal impression is that the idea is a splendid one, but that from what I saw in England of the uninterested attitude of the men, both as to their present surgical condition and their future hopes of being able to earn a living, the usefulness of the curative workshops had chiefly become centred around the supply of "eyewash" for interested visitors to the large orthopaedic centres.

I should have liked to have touched upon many other matters, including the operations for formation of muscle motors in cases of amputation, but I realize that this paper is already far too long.

I thank you, gentlemen, for the opportunity you have given me to read this paper and for the patience with which you have listened to it.

#### INFANTILE HERNIA, ENORMOUS HERNIA AND GIBBON'S HYDROCELE.

By R. Hamilton Russell, F.R.C.S. (Eng.),  
Consulting Surgeon to the Alfred Hospital, Melbourne.

On reading Dr. Charles MacLaurin's charming account of the historian Gibbon's immense hydrocele in *The Medical Journal of Australia* of April 24, it at once occurred to me that it would be a favourable opportunity, while adding an interesting pendant to Dr. MacLaurin's paper, to disinter from my own archives some material the value of which has never been recognized by anybody except its humble author and Mr. R. W. Murray, who incorporated it in his monograph on "Hernia."

First, has the question ever been asked: "What is the origin of enormous hernia?" and by "enormous" I mean the huge sacs that are sometimes seen, similar to that which in Gibbon's case was filled largely, but only partially, by hydrocele fluid, herniae that reach down to the region of the knee and usually contain a large portion of the intestines. It is quite obvious that an ordinary hernial sac, even where the *processus vaginalis*<sup>1</sup> is open throughout, does not and could not develop into anything like this. The solution of the problem will, I believe, be found as a by-product in a study of the anatomy of so-called "infantile" hernia, on *a priori* grounds, perhaps, the last direction in which one would have looked for enlightenment.

I propose then for the second time to discuss the

<sup>1</sup> The nomenclature is apt to be confusing, especially the terms *processus vaginalis* and *tunica vaginalis*. I have endeavoured to render the description somewhat easier to follow by always speaking of the *tunica vaginalis testis*, to distinguish it more clearly from the *processus vaginalis*, which signifies the entire process of peritoneum which accompanies the testis and cord; and which, in turn, comprises the two portions, the funicular process investing the cord and the *tunica vaginalis testis* investing the testis.

anatomy and mode of incidence of infantile hernia. It is necessary as a preliminary to give some brief account of its strange history. We must recognize two periods, which we may call (*a*) the pre-Lockwood period, and (*b*) the Lockwood period. In the first of these periods, which comprises all time before 1886, opportunities for observing the varieties of hernia on the operation table were confined almost entirely to operations on strangulated hernia, for even in 1886 surgeons were only just beginning to perform open operations for non-strangulated hernia. Now it had happened occasionally that surgeons had recorded strange experiences in operating for strangulated hernia, like this. Having incised the swelling, the surgeon would find himself suddenly and unexpectedly in a large cavity, in which the testis was lying naked; projecting into the cavity was found the strangulated hernia, still encased in its sac. In this mystifying predicament the surgeon was likely to meet with adventures and it is readily understood that the recorded cases should have been very few in number. Moreover, the published accounts were often very dissimilar, for all the circumstances of the case were conspicuously unfavourable to accuracy of observation and description.

In 1886, in lectures delivered at the Royal College of Surgeons, the late C. B. Lockwood enunciated his view as to the aetiology of infantile hernia and his view still remains the accepted view of the text-books. He first pointed out that all the strange theories as to the origin of infantile hernia were mistaken and that it was the result of a developmental abnormality. That was a valuable advance; and it is only when we proceed to examination of the exact nature of the developmental defect, as described by him, that doubts begin to arise as to whether Lockwood may not have been misled. I think it probable that at that time Lockwood may not have met with a case of infantile hernia on the operation table, in which case he must have been obliged to rely upon the examination of museum specimens. However that may be, I find it quite impossible to accept his explanation of the facts.

In the *British Medical Journal* of November 16, 1907, will be found, by any who are sufficiently interested to refer to it, an article on infantile hernia in which I pointed out the manifest impossibility of Lockwood's explanation, at the same time indicating where, as it seemed to me, he had been in error and offering a solution of the problem. I treasure the courteous and appreciative letter I received from him at that time, expressing his interest in what I had written and his desire that he might find time to re-study the question in the light of it. That, alas! was denied to him and to us. It is necessary to place the two views side by side in order to understand them clearly; I have accordingly drawn the accompanying two diagrams (Figures I. and II.), showing the anatomical problem presented by infantile hernia and indicating on them the differences of opinion as to the identity of the several parts according to the views of Lockwood and myself respectively.

#### Lockwood's View.

(*a*) The *processus vaginalis* is obliterated high up in the region of the internal ring, but open all the

rest of the way down to the *tunica vaginalis testis*. This, to start with, is an excessively rare occurrence, so rare that I do not think I have ever seen it.

(*b*) The hernial sac is an abnormal one that comes down behind the *processus vaginalis*. This, again, I have never observed and, if it is possible, it must be excessively rare.

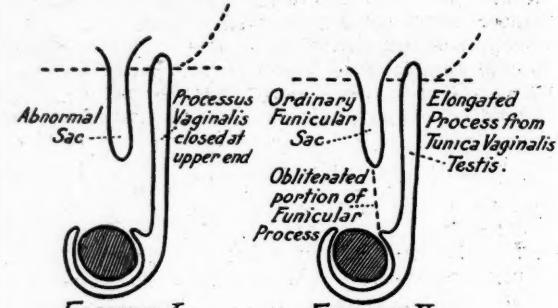


FIGURE I.  
(Lockwood's View.)

FIGURE II.  
(Authors View.)

We are then compelled to assume that two distinct abnormalities, each of them so rare as to be practically unknown, should for some inexplicable reason have a way of occurring together in the same subject with such frequency as to warrant description as a special type of hernia. This is absolutely impossible of belief on the face of it.

#### Author's View.

(*a*) The long process of peritoneum in front, ending in a blind end above, has resulted from a portion of the *tunica vaginalis testis* being caught up by the abdominal wall prior to or during the descent of the testis and consequently drawn out into a long process by the descent of that organ. Lockwood's error, therefore, consisted, according to my view, in mistaking this process for the *processus vaginalis*.

(*b*) The sac is a perfectly normal funicular sac, quite unaffected by the presence of the long process of peritoneum described in (*a*).

Thus it will be seen that if my view is to be accepted, we need recognize but one very ordinary abnormality, which is the implication of a portion of the *tunica vaginalis testis* in the abdominal wall in the course of the developmental happenings that result in the complete descent of the testis into the scrotum.

#### Clinical Incidence.

In the three cases of infantile hernia that I have seen, this is what has happened:

In an apparently ordinary inguinal hernia, the first incision through the integuments of the groin has opened a serous cavity extending down to the bottom of the scrotum and having the naked testis lying in it. On cutting through the further wall of this cavity, the ordinary hernial sac and cord were found, having a perfectly normal relation one to the other. The operation has then been completed in the usual way and has differed in no way from the ordinary operation, except that, in addition to the usual coverings of a hernia, two layers of serous membranes will have been incised. That the sac is a perfectly normal sac is proved by its normal relation to the

cord; this, which can be readily observed, is in itself quite fatal to Lockwood's theory.

The truth of this simple explanation becomes still more completely established when we discover that its acceptance at once removes the stigma of anomaly from infantile hernia and places it immediately in its proper place and in regular series with all the other recognized varieties of inguinal hernia. Thus there is a series of inguinal herniae whose anatomical features are created by the accidental implication of a portion of the *processus vaginalis*, in precisely the same manner as that which I have asserted to the cause of infantile hernia. These varieties of hernia are usually named (1) pro-peritoneal, (2) interstitial, (3) superficial inguinal. They all depend on the developmental involvement of a portion of the *processus vaginalis* in the abdominal wall and they differ only in regard to the exact position occupied by the resulting hernial sac in relation to the several layers of the abdominal wall. Thus, the pro-peritoneal sac lies internal to the abdominal wall, between it and the peritoneum; the interstitial or intermuscular, between the muscles; and the superficial inguinal, in front of the external oblique aponeurosis. They are, further, characterized by the frequency with which they are accompanied by incomplete descent of the testis, the connexion between the two things being very evident, as will be seen on looking at the accompanying diagram (Figure IV.). But these varieties

are all the result of implication of the funicular portion of the *processus vaginalis*, not of the testicular portion (*tunica vaginalis testis*). But if one were to be asked: "What would be the effect, supposing the testicular portion of the *processus vaginalis* were to be implicated in a manner similar to that affecting the funicular portion in the three varieties under consideration?" One could only say this: The descent of the testis would probably not be interfered with, but the *tunica vaginalis testis* would be drawn out by the descent of the organ into a long process passing up to the abdominal wall. In other words, you would be able to predict with certainty the occurrence of the anatomical arrangement characteristic of infantile hernia.

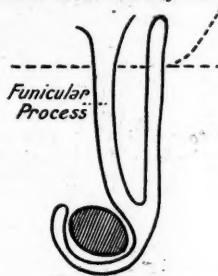


FIGURE III.

*Funicular Process patent throughout forming the Sac of enormous Hernia*

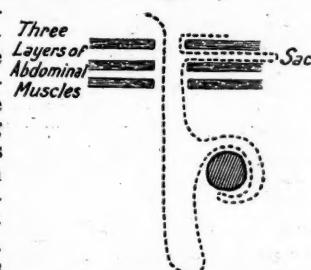


FIGURE IV.

*Interstitial (intermuscular) Sac  
Implication of the Funicular Portion  
of the Processus Vaginalis, with  
imperfect Descent of Testis.*

And here I am content to leave the question as to the correctness of my view of the aetiology of infantile hernia to the individual judgement of others; but I am reminded that I plunged into the subject under the stimulus of Dr. MacLaurin's account of Gibbon's enormous hydrocele. A few words will suffice. I have for long believed, indeed, ever since I came to understand the aetiology of infantile hernia, that the natural combination of the greatly enlarged and elongated *tunica vaginalis testis*, in company with complete patency of the funicular process, must be the essential anatomical cause of "enormous" herniae, or, as in Gibbon's case, of hernia complicated with hydrocele. No other anatomical arrangement that I can devise in imagination would furnish a sac of such size. The actual arrangement is seen at a glance in Figure III.

### Reports of Cases.

#### SOME UNCOMMON CASES.

By C. MacLaurin, F.R.C.S.E.,  
Sydney.

##### I.—Inguinal Hernia; Reduction en masse

A man, aged 65, came up to the Royal Prince Alfred Hospital one day, complaining that his hernia had come down in the night and that he was unable to get it back again as usual. On examination a house surgeon found that he had an irreducible inguinal hernia, which retired into the abdomen on the use of a little taxis. The story is that nothing but gentleness was used and I am quite prepared to believe it. The man stayed in the hospital for a few hours and then, as he seemed perfectly well and complained of no symptoms of any kind, he was allowed to go home. That night he suffered from pain in his abdomen and three days later he began to vomit. He vomited everything and could pass nothing *per rectum*. He returned to hospital and received an enema, which produced a good motion, but no wind passed at all. I saw him the same afternoon. He was palpably shocked; yet his abdominal wall moved freely and his pulse-rate was under rather than over a hundred and his temperature subnormal. Thus we could exclude peritonitis, for in that disease the abdomen does not move, the pulse is rapid and thready and the temperature is raised. He was distended and we could see the coils distinctly through his thin, old abdominal wall. The presumption was that he had an internal strangulation and that the whole hernia had been reduced *en masse*.

When we opened up his abdomen we found it so in fact. We felt a large mass lying over the internal ring, which had been quite impalpable from outside. On working this mass to the surface we found a thickened hernial sac containing a knuckle of bowel, which was nipped by a tight, cartilaginous ring, not big enough to admit a finger. We were able to nick this ring with a knife and to draw the bowel out of the sac into the abdomen for inspection. It was almost black, but had not lost its lustre. In a few minutes it had recovered, shone normally and was as elastic as bowel ought to be. So we returned it to the abdomen and stitched up the tissues of the wall. We found that it was impossible to repair the hernia from inside; at his age it was not enough to remove the sac, it was necessary to do a Bassini operation and that could not be done without laying open the whole inguinal canal. When we had done this we found that there was a remarkable development of extra-peritoneal fat and the peritoneum was exceedingly lax and, no doubt, this explained the ease with which the whole hernia had been reduced *en masse*. The tissues around the ring were of exceeding fragility and were much degenerated for his age. This also helped to account for the separation between neck and ring which is essential for the production of reduction *en masse*.

The more one sees, the more one is convinced that taxis, beyond the very slightest, is nowadays unjustifiable. I have no hesitation in saying that it is safer to do an early operation, even by candle-light in a bush humpy, without a nurse and by local anaesthesia, than to venture upon the perilous seas of taxis. In the present case the surgeon was a careful man, though not of long experience; yet the patient was put into a position of the gravest danger by what is recognized in the text-books as a perfectly justifiable form of treatment.

Secondly, the case brings home forcibly the insidious symptoms of strangulation in old men. This man had none of the agonizing pain, the violent vomiting, the sweating brow, the extreme shock that we associate with intestinal obstruction in young people. He went about for several hours in comfort with his hernia strangulated and thought so little of it that he merely looked in casually with the information that it had come down in the night and that he was unable to get it back. Even after the false reduction he spent three days in comparative comfort. I have seen an old man of 70 who had a strangulation for nearly a week, but whose first symptom was frequent vomiting; at the operation we found him to have ten centimetres of gangrenous intestine. This man walked cheerfully into the casualty room.

#### II.—Fibro-Sarcoma of the Groin.

A young married woman came to the Royal Hospital for Women complaining of a lump in her groin. It had been slowly growing for a year. On examination it proved to be a hard tumour, rather larger than a hen's egg and apparently attached to the anterior superior spine; it was situated above Poupart's ligament, clearly defined, not attached to the skin and fairly movable as a whole beneath the skin. On incision we found that it lay under the external oblique aponeurosis, to which it was attached; a large portion of the aponeurosis had to be removed. It was also fixed to and involved the internal oblique muscle, of which we also were obliged to excise more than we liked. Fortunately it involved neither the *transversalis* nor the conjoined tendon. After cutting away the involved muscles we found that much of the tumour lay in a sort of capsule, which could be easily removed from the connective tissue. The last stage of its removal was to sever its attachment to the anterior superior spine.

A large gap in the muscular and aponeurotic structures of the groin now had to be covered in. This did not prove so difficult as had seemed likely. By means of slow traction with mattress stitches the aponeurosis of the external oblique was dragged down to Poupart's ligament after the internal oblique had been utilized to fill the inner portion of the gap. A month later, the wound having healed by first intention, there was no sign of a hernia.

Sarcomata vary enormously in malignancy. It would almost seem that another generic name is needed. The present tumour was pronounced at the pathological department to be a fibro-sarcoma, probably not very malignant. Such tumours commonly grow from aponeurosis or similar structures and can hardly be distinguished from fibromata, either clinically or microscopically. Slow-growing sarcomata may have a definite capsule, but it does not shut the tumour off so effectually as the capsule of an innocent tumour, because the sarcoma cells can be seen actively penetrating the tumour capsule. The most difficult part of the removal of a sarcoma is the endeavour to remove the capsule also. Thus, it is never safe merely to shell out a sarcoma; yet the removal of the capsule is often impossible, because of its attachment to deep vessels or nerves. In such cases the hemorrhage should be arrested, the wound left open to heal by granulation and subjected to X-ray applications for about two or three years.

A similar case to the one I have described is the recurrent fibroid of Paget, which is now, I believe, classed as a fibro-sarcoma. These begin in a small way, but recur remorselessly though without metastasis, until it may become necessary to remove immense areas of the trunk. The best treatment for them is probably X-rays or radium.

It is difficult to lay down any rules for the relative malignancy of sarcomata. Roughly speaking, those composed of more primitive cells, i.e., the small round celled sarcomata, are the more malignant; yet they are little more malignant than the osteo-sarcomata, which contain complex cellular elements. Those growing from aponeurosis are less malignant than others. It is,

however, difficult to see why most sarcomata growing from periosteum are so terrible, while those arising from aponeurosis, surely a very similar tissue, are comparatively harmless.

#### III.—Tubercular Peritonitis.

The patient was a waitress of 24, who, a week before, had been seized with a severe pain in the abdomen. When this recovered she found herself swelling up rapidly, and when I saw her she was distended to about the size of a six months' pregnancy. She was perfectly sure that she had been normal and in excellent health until a week before I saw her, nor could she in any way account for her ailment.

On examination we found that her abdomen was full of fluid; but nothing else could be found. There was a suspicion of doughiness in the region just below the umbilicus and a general feeling of resistance and matting in the both lateral fornices. Tubercular peritonitis was diagnosed.

It was not easy to get into the abdomen, because a great mass of thickened and matted omentum lay across the wall of the hypochondrium; but as soon as we had partly divided this and partly pushed it on one side, we found the abdominal cavity full of fluid and let out about two litres. It was clear, pale yellow and watery.

From inside it was easy to ascertain that the tubes were immense and much adherent. It was necessary to remove both of these and on examination it was found that they were composed of huge masses of tubercular material. The parietal and visceral peritoneum also was covered with tiny scattered tubercles and the omentum was a shrivelled and adherent mass.

This is an atypical case of tubercular peritonitis, the remarkable feature about it being the extreme rapidity of its onset. More commonly it is a sluggish and chronic disorder, taking at any rate several months before it is sufficiently far advanced to be noticeable. The usual division of the disease into wet and dry forms is not unjustified. In some cases great quantities of fluid are found and nothing else; in others huge masses of adhesions, with little or no fluid.

But often, as in the present case, combined forms are found, with one or other predominating. The general rule of prognosis is that the nearer the condition approaches to the dry form, the worse the prognosis. In wet tubercular peritonitis the mere laparotomy, with release of the imprisoned fluid and six months' rest in the open air are usually sufficient to cure; but dry cases have a strong tendency to form fecal fistulae, which show little tendency to recovery. If one opens the abdomen in these cases, one finds the whole cavity filled with immense adherent tubercular masses; it is impossible to do anything and the attempt to separate the intricate adhesions is practically certain to be followed by fatal fecal fistulae.

But fecal fistulae are not the only trouble, for it is common to get intestinal obstruction by bands; and also the dry form readily passes into a state of caseation, in which cold abscesses form between the coils of intestine. These cases are practically hopeless and should only be operated on when it is definitely certain that they are strictly localized and that there is reasonable prospect of being able to remove the source of the disease.

When tubercular peritonitis occurs in women it is frequently due, as in the present case, to infection from a diseased tube; but more often it occurs in children and in them it is no easier to find the cause than in any other form of tubercle. Probably milk infection in infancy or childhood has a great deal to do with it.

The South Australian Branch of the British Science Guild sent a deputation to the Minister of Education, the Honourable G. Ritchie, on May 20, 1920, for the purpose of urging him to provide funds for the establishment of a dental clinic for school children. The urgency of the matter was argued and the Minister promised that it should receive the earnest attention of the Cabinet. He promised that the vote of £100 would be increased.

Dr. Dawson Williams, Editor of the *British Medical Journal*, has been appointed a Commander of the Order of the British Empire for valuable services rendered to the Royal Army Medical Corps throughout the war.

## The Medical Journal of Australia.

SATURDAY, MAY 29, 1920.

### Welcome!

His Royal Highness the Prince of Wales in stepping on to Australian soil has received tokens of the universal loyalty of the Australian people. His visit is primarily an act aiming at the closer union of the integral parts of the British Empire. In expressing the welcome of the medical profession this *Journal* would voice the views of all true Australians that the Empire stands on a glorious tradition and that the King belongs as much to the Commonwealth as he does to any other part of the vast British Empire. We welcome the Prince as the heir to the Throne.

The Federal Committee of the British Medical Association in Australia has prepared a loyal address of welcome to the Prince. This address was presented to him on his arrival at the capital city of the Commonwealth. As he proceeds to the other five capitals other tokens of loyalty to the King and of kindness to the Prince as a man will be given. He will thus have a demonstration of the spirit that actuated over one third of the members of the medical profession in the Commonwealth to answer the call of Empire in her hour of need and to leave home, relatives and everything that was near and dear to them for a great ideal. The same spirit of loyalty to the King and Empire impells the medical profession of Australia to-day to greet the Prince of Wales as humble and dutiful subjects.

### THE FIVE POUND BONUS.

It is now approximately six and a half years since a beneficent but not very far-seeing government introduced into the Commonwealth of Australia an arrangement whereby every woman who becomes a mother, obtains a present of five pounds. Whether this scheme was an imitation of Mr. Lloyd George's maternity bonus provision of the *National Insurance Act*, going "one better" or not, need not trouble us. Neither is it advantageous for us to discuss the

wisdom of requiring the tax payer to find a large number of five pounds for the wives of citizens who are able to afford many costly luxuries. There are two possible arguments in favour of a maternity bonus. The first is that it enables the wife of the small wage earner to pay the expenses entailed by a confinement without encroaching on her larder. The second argument is that it places within the reach of the less well-to-do of the community additional comforts and articles which would tend to improve the health of the mother and her unborn babe and lessen the risks of morbidity during a trying time. Unfortunately these arguments are largely theoretical. It has been ascertained that in very many instances the money is squandered in the public house. This is particularly true of those persons whose economic condition is so perilous that the extra money, if spent on the welfare of the mother, would probably have a highly beneficial effect. In the next place the actual confinement expenses are not as heavy as might be supposed. The doctor attends the wives of his lodge patients for a relatively low fee. In the cities and towns, the majority of women are delivered in a hospital when nursing and attendance are provided free of cost. In other words there is much overlapping. It is extremely doubtful whether the maternity bonus has actually fulfilled its purpose in more than a small proportion of cases. It must not be forgotten that in the course of the first 5½ years, no less than £4,357,895 were paid out to the mothers of Australia as bonuses. This is equivalent to £757,895 each year. Summarizing the position in regard to the first argument, it may be said that a not inconsiderable proportion of the three quarters of a million bonuses was paid to persons who did not need the money; in many instances the five pounds was grossly misapplied and in the remainder it was put to a more or less serviceable use.

If the object of this legislative provision was to tempt the wives of Australia to become mothers, it has surely failed. The birth-rate in 1912 was 28.65 per thousand of population, while in 1918 it was 25.25. If the legislature intended to improve the psychical condition of the race, it has failed, for the available statistics reveal no reduction in the morbidity of the parturient state nor any improvement in

the infantile death-rate. Indeed, it would be strange had the indiscriminate distributions of alms to rich and poor alike resulted in an improvement of the health of the mothers and their babies. Something quite different is required. There is such a thing as preventive medicine, applied to obstetrics. It is no mere theory that well-directed supervision, skilled care and properly conducted prophylactic measures safeguard the mother against the dangers that are all too commonly associated with parturition and the puerperal state and enhance the chances of the infant both as to a safe entrance to this world and as to the risk of the terrible gastro-intestinal scourges which are responsible for the death of about 5% of all children born, within the first few weeks of life. If a sum considerably less than that squandered foolishly on the maternity bonus, were expended on homes where women could be prepared for their confinements, if a well-organized campaign were instituted for the adequate control of every pregnant woman from the time of quickening until she and her baby are safely "through the wood," the tax payer would not have long to wait before he recognized a good return for his investment. The establishment of prenatal rest homes is no new idea. It has been applied both in Australia sporadically and elsewhere more systematically. To produce a far-reaching effect, these homes must be provided on a large scale, in order that all women of small means shall have the opportunity of deriving the benefits they can accord. By themselves, these rest homes are insufficient to effect a marked reduction in the maternal morbidity and infantile mortality. They must be supported by the general introduction of a routine examination of every woman throughout her pregnancy and by some plan whereby every necessitous woman during pregnancy, parturition and the puerperium can obtain the special diet prescribed for her. This assistance should be extended exclusively to those who are unable to follow the advice of their medical attendants without aid. In this scheme for the safeguarding of the lives of mothers and their unborn infants, the medical profession will have to bear a large burden. In the first place the individual practitioners will have to make a serious study of prophylaxis as applied to the pregnant woman. It may be necessary for the Government to introduce some form of national insurance to

cover the provision of medical and nursing attendance for women in necessitous circumstances during pregnancy and the lying-in period. Many more maternity hospitals and homes will have to be established and connected with these hospitals; there will have to be out-patient departments at which the women can be induced to attend from time to time for supervision. Finally the system of infant or baby clinics should be placed on a sounder footing than at the present time. These clinics should be under the direct control of medical practitioners who have specialized in the management of infants and in the diseases peculiar to infancy. The Federal Government is at present spending over three quarters of a million pounds sterling annually on the maternity bonus. For this large sum the people of Australia are not deriving a commensurate return. If the same sum were allocated for a scientific and rational campaign directed to the reduction of the avoidable accidents of child-bearing, an immense saving of misery, illness and death would follow. The maternity bonus has had a fair trial. It should now be replaced by something better.

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#### THE ALCOHOL QUESTION.

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The alcohol question is usually presented as a simple issue, a curse that should be killed by compulsion. No one with eyes to see or ears to hear will deny that the abuse of alcohol is responsible for a very large share of the misery of life and that the human race would be happier, healthier and saner if it could be removed. The question, however, is not a simple one. There are many side issues vitally affecting the main question. To ignore all pertinent factors of so wide-spread a habit as that of imbibing beverages containing ethyl alcohol is to adopt an irrational course and to encounter failure. It is not our intention at present to discuss the whole problem. That can be done in successive chapters at a subsequent date. We would wish to summarize a symposium on some of the many aspects of this vexed question which has lately appeared in the *New York Medical Journal*. We would preface this condensed account with the remark that, while we recognize that the writers are all men whose experience, position and knowledge command a careful hearing on the part of all persons wishing to arrive at the truth, we are not prepared to endorse all the opinions expressed by them.

Dr. Charles S. Potts, the retiring President of the Philadelphia Psychiatric Society,<sup>1</sup> holds that the American people have allowed hysteria, hypoerisy and cowardice to influence them in the settlement

<sup>1</sup> This and the succeeding articles referred to appear in the *New York Medical Journal*, April 8, 1920.

of a medical question. He considers that if alcohol were the potent factor in the causation of mental and physical deterioration it is claimed by many to be, the world by this time would be peopled almost entirely by mental and physical weaklings. He protests against the uncritical application of observations on laboratory animals and of statistics, in defiance of actual experience in man. It is true that alcohol produces degenerative and destructive changes in the nerve cells and fibres when given to the lower animals. But he is not prepared to admit that any of these changes occur when men partake of a little alcohol, well diluted. Again, he points out that the statisticians draw conclusions concerning the frequency of epilepsy in the children of persons who indulge in alcohol and so forth. He is inclined to agree with Burr, that a person becomes a drunkard as a rule because he is not mentally normal, rather than that the person becomes insane because he had indulged too freely in alcoholic beverages. It is easy to compute statistics showing the frequency of alcoholism in the individual who dies at an early age from arteriosclerosis. He maintains that we would be surprised if the frequency of the habitual drinker who lives to an advanced age, were similarly demonstrated. Lombroso has shown that mental disease is more common among the Jewish than among any other race and yet alcoholism is notoriously less common among Jews. The author is so little convinced that the moderate use (not abuse) of alcohol is deleterious to the human race, that he enters upon a critical survey of a considerable number of prominent men whose mental activities have contributed to progress. He starts by referring to the ninth chapter of Genesis in which it is recorded that Noah became drunk. The ancient Egyptians attributed their knowledge of the art of making beer to the god Osiris. Alcoholic beverages were used in Babylon, nearly ten thousand years before Christ. He maintains that the use of alcohol and the birth of real progress in the world were coincident. Progress has been more rapid since the use of alcoholic beverages has become extensive. Sir William Roberts once expressed the opinion that three or four generations of total abstinence in England would lower the mentality of the people to the Moslem level. The French people have drunk wine for centuries and the German people have drunk beer. "No one in the light of recent history can term them decadent or inefficient, whatever we may think of other characteristics of the German." After reviewing the habits of peoples of this and other ages, he turns his attention to individuals. Washington and Lafayette were frequent guests at an exclusive club called the "State in Schuylkill." The manner in which toasts were drunk at this club is described in Watson's vivid words. George Washington used "punch by the barrel and hogshead, plenty of wine, brandy, rum and strong beer" during his election campaign. During a famine, he banished wine from his table, but entertained his friends with rum and water. Benjamin Franklin, as is well known, was a heavy drinker. Thomas Jefferson spent nearly \$11,000 on wine during the eight years he was President. Daniel Webster was a hard drinker and General Grant, who later became President, was compelled to resign his

commission on account of drunkenness. Shakespeare, Dickens, Thackeray, Tennyson, Browning, Poe, Addison, Sheridan, Charles Lamb and many other great writers used alcohol, "and some used it to excess." He indulges in a number of anecdotes concerning prominent jurists and others to show that those who have become famous, have enjoyed a glass and often several. In the war the value of the rum ration has been proved. Sir Robert Armstrong, Lecturer on Mental Diseases at St. Bartholomew's Hospital, stated recently that the rum ration served to the men in the British Army enabled them to withstand exposure to intense cold and wet. He has expressed the opinion that it checks tissue waste and is valuable in serious nutritional disturbance. In conclusion, the author claims that the resolution of the American Medical Association, that alcohol is useless as a food, as a stimulant and as a drug, is both hasty and not entirely true.

Professor W. H. Porter admits frankly that the abuse of alcohol is unqualifiedly harmful. He maintains that alcohol is a stimulant, notwithstanding the statements made to the contrary. He points out that ethyl alcohol is very readily oxidized into carbonic acid and water. Each gramme of alcohol oxidized liberates seven large calories. Glucose, which represents the next most simple molecule utilized in the animal body, is oxidized within the body after the expenditure of considerable digestive energy to the same end products. Each gramme of glucose yields four large calories. A substance which produces heat so readily and in such large quantities as alcohol does, is a stimulant of the first order. Moreover the simple nature of the molecule permits of the oxidation under conditions which preclude the same process in the case of sugar or fat. He is convinced that in his own practice alcohol has saved very many lives. He admits that if it be given without discrimination, it may overstimulate. In these circumstances the stimulant effect is soon replaced by a depressant effect. But he claims that it is not difficult to avoid the depressant action of alcohol altogether. He holds that the resolution of the American Medical Association should not be regarded as authoritative. It does not express the considered opinion of sixty-five thousand medical practitioners in the United States. The motion was presented to a relative small meeting. The members referred it to the Council who announced their decision, the decision of less than 0.5% of the members. He deplores that ill-considered actions should lead the public to the inevitable conclusion that the scientific ability of the medical profession is a doubtful quality.

Professor Charles Baskerville deals with the chemistry of methyl alcohol and gives some highly interesting data. In the first place he recalls the fact that a movement is afoot to get rid of the world alcohol. People who have been accustomed to drink spirits, are not deterred by the poison label attached to a bottle containing wood alcohol. They desire alcohol and are little concerned with chemical differences of the various forms of alcohol. It has been decided that ethyl alcohol shall be known in future as ethanol, methyl alcohol as methanol, propyl alcohol as pro-

panol and so on. In this way, while the indication of the chemical grouping is retained, the confusion between ethyl alcohol and the remaining alcohols should disappear. Methanol or wood alcohol is obtained commercially from the destructive distillation of hard woods, from peat, from vinase and from wood pulp by the soluble sulphite process. Crude wood alcohol is a yellow to dark brown, evil smelling liquid containing numerous impurities. By refining an almost pure methanol can be obtained. It is colourless and has a vinous odour. It is used for denaturating ethyl alcohol, as a solvent in many industrial processes, in the preparation of pharmaceutical products and as a fuel, illuminant and cleaning fluid. Following the practice in Europe, the United States in 1906 permitted the general use of tax-free domestic alcohol for industrial purposes, but required that this alcohol for use in the arts and industries should be mixed with substances which would destroy its character as a beverage. Methanol was largely used as a denaturant of ethyl alcohol, partly because it was highly poisonous, partly because it was cheap and partly because it was difficult to separate it from ethanol after mixture. Professor Baskerville traces the history of the adulteration of whisky, bitters, essences and various medicaments with methanol. Many instances of blindness and even of death followed the use of spirits adulterated in this way by unscrupulous vendors. The laws governing the purity of foods and drugs succeeded in reducing the frequency of this form of adulteration very materially. With the introduction of prohibition, however, the drinking of wood alcohol or denatured spirit became common. Completely denatured alcohol, prepared by the No. 1 formula, contained 10% of specified commercial methyl alcohol and from 0.5% to 1% of approved benzine. Since January, 1920, completely denatured alcohol may not contain more than 2% of methyl alcohol. This means that when the spirit is diluted for drinking purposes, the methanol would be taken in such small quantities and so well diluted, that it would probably be harmless. On the other hand denatured alcohol containing wood spirit, although extremely nauseous of taste for the majority of persons, may be taken with relish by those who have accustomed themselves to the taste. The author points out that some people become accustomed to the odour of a piggery, while others pay considerable sums of money, on medical advice, to drink sulphur waters. Denatured alcohol contains not more than 2% of methanol. As beverages they probably contain somewhat less than 1%. They therefore rarely cause immediate blindness, but the cumulative action of methanol asserts itself after a shorter or longer period of indulgence.

Professor Baskerville draws the attention of his medical readers to the fact that when grain or sugar is fermented by certain wild yeasts, methyl, butyl, propyl and other alcohols may be produced. He gives a list of a few yeasts which are employed for the purpose of producing these alcohols. This fact proved of great value in the manufacture of high explosives during the war. Great care in the proper selection of yeasts is therefore necessary when grain or sugar is being fermented. Under usual conditions a certain

amount of amyl alcohol is produced in distilled liquors, such as whisky, brandy and gin. This substance is called fusel oil and is said to be the substance that causes "the headache on the following morning." Ethyl alcohol may be obtained from the fermentation of sugar, starch and cellulose-containing material. The author relates that he inverted, fermented and distilled the cellulose of an old night shirt, when a student, and produced a "lemonade" for a "laboratory frolic." In conclusion he points out that man has handled dangerous substances for his own good purposes ever since he learned the uses of fire. He claims that it would be intolerable if the one side of the case alone were presented, in arguing, let us say, whether the chemist should manufacture cyanide for the gold extracting industry. When all sides of the alcohol question are ventilated, it will be recognized that alcohol put to proper use is a valuable material.

Dr. Charles Norris, the Chief Medical Examiner of the City of New York, deals with the pharmacology of wood alcohol or methanol in the light of recent poisoning cases. He shows that while the toxicity of ethanol and methanol are approximately the same, the coma produced by the latter is delayed and lasts longer than that produced by ethanol. Methanol attacks the highly differentiated nerve elements and produces coma and blindness. Drunkenness induced by methyl alcohol, unlike that induced by ethyl alcohol, is almost always fatal. It has a markedly cumulative action. The evanescent action of ethyl alcohol is due to the fact that it is readily and completely split up into carbonic acid and water. Methyl alcohol is but partially oxidized within the body, the end products being formaldehyde and formic acid. These substances are much more poisonous than methanol. Formic acid is excreted at a very slow rate. It is stated that methanol is excreted to some extent unchanged in the urine and that some of it passes back into the stomach, where it acts as an irritant. The author has found that the gross changes due to methyl alcohol are indefinite and little characteristic. Unless there is a history of wood alcohol having been drunk, it may be impossible to determine the cause of death by physical means. A chemical analysis will settle the doubt.

Dr. Colman W. Cutler expresses the view that a complete submission to a new regime is not in accord with the history of reforms. Prohibition in the United States has had an astonishing effect on the people. He raises the question whether the generation that has indulged in alcohol, will become abstinent without substituting other equally pernicious vices. As long as grain alcohol is unobtainable, it is essential that its poisonous substitutes should be eliminated from beverages, extracts and drugs. He holds that workmen exposed to the fumes of methanol in industries, should be protected against insidious forms of chronic poisoning. The Wood Products Company has revealed a laudable anxiety to assist the authorities in preventing the preparations containing one or other of the alcohols from being used for other than their legitimate industrial purposes. The National Committee for the Prevention of Blindness has attacked the problem of poisoning with methanol with energy.

Incomplete statistics to hand at the time of the last report, reveal that 179 deaths from poisoning with this substance took place in New York city in December, 1919, and five in January, 1920. It is believed that in very many instances the cause of death has not been stated on the death certificate and consequently that the actual number of deaths from this cause has been much greater. There are no statistics of the frequency of blindness due to methanol. The author refers to the symptoms of chronic poisoning. The cardinal symptoms are headache and vomiting, often with blood in the stomach contents, severe abdominal pain, cyanosis, dyspnoea, convulsions, coma and death from paralysis of the respiration. Partial or complete blindness with dilated pupils occurs in mild intoxication. The optic nerve in these cases is white, with blurred edges; the lamina are not visible; the vessels are greatly contracted. In other words it is the picture of atrophy secondary to papilloedema and not of primary optic atrophy. Unless the patient is seen early and the diagnosis is made at once, little can be done for him. Dr. Cutler has arrived at the conclusion that when the ophthalmic surgeon sees a patient with optic atrophy without ascertainable cause, he should investigate the case with the view to the exclusion of methanol poisoning as the cause. He is of opinion that the facts concerning tolerance and acquired immunity have not been properly investigated. While methanol is converted into formic acid at a slow rate and consequently this substance has a cumulative action, it is not impossible that in some instances the chemical transformation may be more rapid and complete or the tissues more resistant. It would seem that some persons imbibe beverages containing methanol for years without suffering any deleterious effect. It is said that the coloured races exhibit more resistance to methanol than white men. In conclusion, he warns the health authorities that it is necessary to enforce the laws rigidly with a view to the prevention of these cases of poisoning. At the same time he considers that the urgent situation, produced by the introduction of prohibition, has now passed.

#### THE ARNETH COUNT IN PULMONARY TUBERCULOSIS.

Arneth in 1904 drew attention to the observation that the number of lobes of the nuclei in neutrophile leucocytes, although constant in health, was apparently altered in certain infective diseases, notably pulmonary tuberculosis. He divided neutrophile leucocytes into five classes, according to the number of lobes of the nuclei. Importance was attached to changes occurring in Classes I. and II., i.e., in those leucocytes containing one or two subdivisions of the nucleus; Arneth's "index" is the sum of these two found in counting 100 cells. It is claimed that in infectious disease there is a well-marked relative increase in Classes I. and II., which is described as a "shift to the left" of the index. In pulmonary tuberculosis the shift to the left is said to be in proportion to the extent of the disease; as the patient improves, the index tends to return more to the normal. Moreover, some observers hold that no case could be regarded as cured unless the index is normal.

In reviewing the work of more recent investigators,

Dr. H. A. Treadgold<sup>1</sup> concludes that in the main the contentions of Arneth have been upheld. This author has recorded observations made in 30 cases of pulmonary tuberculosis in patients with tubercle bacilli manifest in the sputum. His observations show that a shift to the left is usually present in active pulmonary tuberculosis, the degree of shift being most marked and usually progressive in patients in whom the disease is proceeding to a fatal termination. The shift is less marked and tends to remain constant in patients who do not improve under treatment. When improvement occurs, the index tends to approximate the normal. It was found that certain of the cases did not conform to this general rule, a shift to the right being occasionally noted. It is inadvisable to draw conclusions from single Arneth examinations. At least three counts should be made, extending over a period of several weeks, in order to obtain evidence which might prove of value in estimating the progress in a given case. The original method of making the count has been modified by subsequent workers. Probably the simplest of these modifications is that devised by von Bonsdorff, by adding together all the lobes of the nuclei of the five classes, after counting 100 leucocytes. The limits of normality in this method are arbitrarily fixed as 210 to 270 for women and 220 to 280 for men.

The reason for the shift in the Arneth count in infective processes has been the subject of considerable discussion. The consensus of opinion appears to be that an increase of leucocytes of Classes I. and II. goes hand in hand with low resistance or with a high degree of absorption of bacterial products, which brings about the destruction of the more actively phagocytic leucocytes belonging to Classes III. and IV.. Other observers regard the Arneth count as an expression of the functional activity of the leucopoietic system, rather than a measure of phagocytic activity. It is suggested that the count may be regarded as an index of the ratio between bodily resistance, as evidenced by increased production of leucocytes, and the degree of the effects produced by the infecting organism which result in leucocytic destruction.

Dr. Treadgold does not appear to have considered the subject from the biological point of view. In the first place, the usual method of preparing a blood specimen for microscopical examination entails a fixation of the elements under artificial conditions. The nuclei often undergo considerable modification during the death of the cell. Moreover, in the dried specimen the leucocytes are flattened bodies, not globular, as in life. The difference can be demonstrated by the fixation by a rapid process of a small bulk of blood. Osmic acid vapour acts immediately and apparently preserves the structures in their normal living condition. If the blood be hardened and cut, like other histological tissue is cut for microscopical examination, a clear, natural picture of the nuclei of leucocytes is obtained.

Another grave defect of the Arneth index method is embodied in the fact that only 100 cells are counted and that nuclei containing one or two lobes are arbitrarily selected. If 1,000 cells are counted the results are often quite different.

<sup>1</sup> *Lancet*, March 27, 1920.

## Abstracts from Current Medical Literature.

### MEDICINE.

#### (191) Medical Treatment of Gastric Ulcer.

Samuel Weiss gives an account of the modern medical treatment of chronic ulcer of the stomach and duodenum, with special reference to the Sippy method (*Medical Record*, November 29, 1919). After a period of observation and differential diagnosis, there is a period of absolute rest in bed and starvation. The chief methods of dietary treatment for ulcer may be classed as: (i.) Absolute physiological rest to the upper digestive tract, with later mouth feedings, either with or without rectal alimentation in addition; (ii.) almost continuous, but reduced, physiological activity of the same region, but with food in small amounts, principally protein, having the quality of quickly binding the free hydrochloric acid, turning the albumin into the comparatively unirritating syntoin and of leaving the stomach promptly; (iii.) transgastric or duodenal feedings; (iv.) an essential feature of still another form of treatment is the use of alkalies to reduce the exaggerated acidity, usually present in these cases, together with the feeding of small quantities at frequent intervals of highly albuminous foods. The use of alkalies may, of course, be combined with any one of the forms of treatment. Sippy, of Chicago, feels that operative procedure is scarcely ever necessary, as the cures are regularly obtained by his method. He has even included all cases of pyloric stenosis, except those of extreme narrowing, due to definite cicatrical contraction following a healed ulcer. After three or four weeks or more of this treatment, the spasm is relieved, the round-celled infiltration disappears, as well as the oedema of the inflammatory tissues, and the lumen is again established, so that, in practically every case, a meal consisting of meat and vegetables leaves the stomach within six or seven hours. Sippy limits surgical interference to perforation, perigastric abscess, secondary carcinoma, hour-glass or other deformity, haemorrhage of a serious nature under certain conditions and pyloric obstruction of high grade, not influenced by medical treatment. Septic ulcers would tend to heal spontaneously were it not for the fact that they are constantly subjected to the corrosive action of the gastric juice and, if this can be neutralized continuously during the period of gastric and upper intestinal digestion by proper diet and alkalies and the removal at night of any product of continuous hypersecretion, the ulcer will heal without difficulty. A full account of the treatment is given in the text, to which the reader is referred. A belladonna suppository is given and sodium bromide, if the patient is restless or nervous. The preliminary starvation period may be cast aside in most cases, but is necessary in patients with bleeding

ulcer, who have morphine and atropine to insure complete rest to the gastrointestinal tract. After the starvation period, mouth feeding is begun. Each morning, before the first feeding, four grammes of bismuth subcarbonate are given. During the treatment calcined magnesia and sodium bicarbonate are administered. Magnesia has four times the power of neutralizing the free hydrochloric acid, as compared with the soda. Diarrhoea, however, is apt to follow its free use. The amount of alkali can be varied as determined by the examination of the stomach contents. It is particularly necessary to be sure that the stomach does not contain free acid during the night. An ambulatory diet is also given for patients with symptoms suggestive of peptic ulcer, but in whom the diagnosis is not certain, or who cannot or will not give the time for a regular course in bed. The signs of cure of an ulcer are a long period of freedom from symptoms of six months or more, combined with normal gastric functions, absence of blood in the stools and a marked or complete change in the anatomy of the ulcer. When an ulcer reappears after such an event, the author regards it as a new ulcer, not the recurrence of the old one.

#### (192) Acute Barbitone Poisoning.

S. J. Taub reports the case of a married woman, aged 28, who had been accustomed to take from 0.6 to 1.2 grammes of barbitone almost every night for two years following hysterectomy (*Journ. Amer. Med. Assoc.*, February 14, 1920). One evening, after taking some shrimp salad, she became suddenly ill with nausea, vomiting, abdominal pains and diarrhoea. That night she took 10 tablets, each containing 0.3 grammie. The vomiting was much less, but the diarrhoea continued through the night and she felt stuporous, drowsy and weak. During the next day she took 10 grammes to sleep off the effects of what she called "ptomaine poisoning." The author saw her the evening of the same day. She was in bed and seemed seriously ill. She was in a stuporous condition and answered questions very slowly. Her voice was faint and had a prolonged drawling expression. There was some confusion, but no disorientation. The face was ashy grey and the lips very pale. The nails were cyanotic. The temperature was 36.4° C., pulse-rate 52 and the respirations 12. The patient complained of feeling very cold. The pupils were dilated, but reacted normally. The tongue was heavily coated and the breath fetid. The heart beat was regular. The skin was cold and dry and of a slight yellowish hue. The patellar, triceps and biceps reflexes were very sluggish. Sensibility to pain, touch, heat and cold were about normal. There was marked ataxia of both upper and lower extremities. She could not hold anything in her hands. On attempting to walk, she staggered and had to be assisted. Treatment consisted of intramuscular injection of camphor in oil, strichnine and atropine. Heat was applied externally. Next day the patient

was somewhat improved, although the diarrhoea continued and she remained very weak. Lethargy and drowsiness persisted and she slept at intervals, but was easily aroused. The ataxia had not disappeared. On this day typical haematorphyrinuria appeared and persisted for three days. After the fourth day she was able to sit up in a chair, but the ataxia persisted till the end of a week.

#### (193) Infantilism.

T. G. Moorhead reports two cases of infantilism of pancreatic and intestinal origin (*Dublin Journ. Med. Science*, January, 1920). Zundel and Thomson classify infantilism into (i.) idiopathic cases, in which no serious general or local disease in discoverable, (ii.) cases due to general diseases, such as tuberculosis, congenital syphilis, malaria, leprosy, etc.; (iii.) cases due to disease of glands, which have an internal secretion, e.g., subthyroid infantilism, Frohlich's pituitary syndrome, and cases associated with disease of the thymus, suprarenal or testis; (iv.) cases due to poisoning or malnutrition, e.g., chronic nicotine or lead poisoning, congenital heart disease, chronic diarrhoea. The author's first patient was 18 years of age and had suffered from diarrhoea since the age of five. The motions numbered, on the average, five a day. They were bulky, yellowish-white and offensive. Trichocephalus ova were present in large numbers. The patient suffered from typical attacks of tetany. The case resembled the described pancreatic cases, but the diagnosis was not definitely proved. At the autopsy the thymus was found enlarged and extended over the pericardium as a typical bilobular organ. Microscopically it was found to have undergone involution and consisted mainly of fat. The apparently primary pathological change was catarrh of the colon and probably also of the small intestine. The other changes were probably secondary, including those in the pituitary gland. The case was one of intestinal infantilism. The other case was less pronounced, but the author believes it to be one of genuine mild pancreatic infantilism. The patient was 17, and had suffered from diarrhoea from the age of 13. The intelligence was good. The motions were from four to five daily, almost white, bulky and offensive. As a rule, a regular deposit of creamy fat separated on the surface of the motion. The glutoid test was negative on two occasions and positive on one occasion, when pancreatic extracts were given, in addition to the capsule. Loewe's test was negative. Treatment consisted of giving *liquor pancreaticus*, holadine and bile salts capsules, small doses of arsenic for the anaemia, diet as described and, at first, lavage of the colon. The diarrhoea became reduced to two motions daily. The motions improved very much in appearance, although a considerable amount of fat continued to be passed. No gain in height was recorded, but general nutrition improved. The skin became soft and pliable, the pubic hair began to grow and the sense of fatigue disappeared.

## NEUROLOGY.

## (194) Simulation.

William A. White (*Journ. of Nerv. and Ment. Dis.*, September, 1919) points to the two diametrically opposed views concerning simulation, that of lawyers and the laity, who regard it as a common means to escape the consequences of one's acts, and that of the experienced psychiatrist, criminologist and student of human behaviour, who sees in the simulator an individual of defective make-up and in the symptom an expression of such defect. The term simulation is applied to symptoms which appear to have been assumed to serve some end, e.g., the avoidance of a disagreeable duty by the soldier, the escape of punishment by the criminal. A diagnosis is usually made when it seems evident that the symptom fits the desire and when, in addition, the patient can be led by some trickery to contradict the symptom. The writer's thesis is that such an attitude towards the symptom is unwarranted. The mere fact that a symptom may bring benefit to the patient is no argument that it is assumed. The drawn-up leg of the sufferer from appendicitis might as well be so regarded. In clinical medicine a diagnosis founded on a single symptom is an absurdity. In looking for causal relations among psychological events it must be realized that symptoms arise because they are calculated to benefit the individual. Of this, obvious examples are seen in every-day life and more subtle instances in hysterical and neurasthenic patients. All these symptoms are "motivated in the unconscious" and for them the individual cannot be held responsible. Only when a symptom can be shown to have arisen in the field of the clear, conscious awareness of the individual, who at the same time had the purpose to deceive, in order to avoid responsibility, or escape punishment, or to gain some such end, is the term simulation applicable. The aim of the examiner must be to discover what the patient is trying to accomplish by means of the psychosis, to investigate the mechanism and not to be actuated by hate, dislike or any other motive, as is the lawyer.

## (195) The Nature of Essential Myoclonia.

Pierce Clark (*Journ. Nerv. and Ment. Dis.*, July, 1919) in a critical discussion of myoclonia, says that if, in 1881, Friedreich had deliberately attempted to confuse neurology in his original description of a type of nervous disorder, by recording an unusual form of clonic muscular contraction, he could hardly have been more successful. It is now known that there are innumerable variant forms of myoclonia. Some would include chronic choreas, habit spasms and the multiple tics under this heading, but the condition should be narrowed down to the short, sudden, lightning-like contractions, affecting the proximal muscles of the extremities and trunk, asynergic in action, as described in most text-books. Unverricht's myo-

clonus-epilepsy, a family disease, is an extraordinary combination, apparently due to cortical defect. The nystagmus myoclonia, of Brittany, is also familial and may be associated with epilepsy. Myoclonia has been seen in numerous forms of cerebro-spinal syphilis, including general paresis and *tubes dorsalis*, as well as in simple meningitis, also in infantile cerebral hemiplegia and hereditary ataxia, and in *folic circulaire*, in psychastenia, neurasthenia, renal disease and acute myelitis; this does not exhaust the list. It is important to remember that it is an affection of adults, hence the various tics and choreiform movements of childhood can be excluded. The data on the pathological anatomy of the condition are scanty and inconclusive. The slow, non-fatal course of the disorder makes autopsies rare. The knowledge possessed at the present time has been drawn from cases associated with epilepsy, or some organic disease, in which it is impossible to separate the tissue changes of the complicating lesion from those strictly causing the myoclonia. The field is full of speculations. Some localize the lesion in the spinal cord and nuclei of the cranial nerves, others in the *cortex cerebri*, others in the *corpora quadrigemina* and bulb and, lastly, the author favours an abiotrophy (Gowers) of the neo-striatum or lenticular region, an ultra-microscopic change affecting tonetic functions, in accordance with Hunt's writings.

## (196) Hyperglycæmia in Mental Disorders.

F. H. Kooy (*Brain*, Part III., 1919), noting the established fact that emotional disturbance, especially that of a depressing kind, has a bad influence on the course of diabetes, proceeded to an estimation of the blood-sugar in a series of cases of mental disorder. He employed the method of Bang and used the blood of 10 normal men and 10 normal women for control purposes. His first conclusion is that there is no fixed limit to the amount of sugar in the blood above which the diagnosis of diabetes is made. In the same way as the body temperature normally varies, so also a considerable increase of blood-sugar is not necessarily a sign of disordered metabolism. He goes on to show that, just as in the normal person, emotion induces hyperglycæmia, so it does in cases of mental disorder, for instance, general paresis, epileptic insanity, *dementia praecox* and in particular melancholia. Regarding melancholia he proves that hyperglycæmia before breakfast (spontaneous hyperglycæmia) is not constant; after breakfast (milk, bread and butter), however, it is constant (alimentary hyperglycæmia). The greatest amounts of blood-sugar were shown in states of anxiety. He next argues on animal analogies. In lower animals, as others have proved, strong emotions, such as fear, anger and pain, induce glycosuria, probably the result of hypersecretion of adrenalin or excitation of the sympathetic nervous system and a reaction useful to the animal when in

danger. Therefore, in the human subject, afflicted with melancholia, it may be that the signs of excitation of the sympathetic, namely, hyperglycæmia, increased blood pressure, dilatation of the pupils, diminution of secretions and inhibition of intestinal movements are representations of lower animal reactions. Hence the deeper cause of melancholia and of all degenerative psychoses in which inexplicable variability of mood is exhibited, must be sought in the animal world.

## (197) Brachial Birth Palsy.

T. Turner Thomas (*Amer. Journ. Med. Sciences*, February 1920) maintains that brachial birth paralysis represents only one phase of a much larger shoulder-joint problem. Almost all, if not all shoulder-joint injuries are associated with a brachial paralysis of varying degree and duration. Very rarely will an actual nerve rupture be associated with the paralysis. The best evidence of the absence of a nerve rupture is the almost uniform and gradual disappearance of the paralysis. If the crippling of the limb persists into adult life, a posterior dislocation of the shoulder will be found. In obstetrical paralysis examined soon after birth there is a profound and apparently complete paralysis of the whole limb, not a paralysis confined to the small Duchenne-Erb group of muscles. Such extensive paralysis is best explained by the inclusion of the branches of the brachial plexus in an axillary inflammation consequent upon a birth injury of the shoulder-joint. The Duchenne-Erb localization of the paralysis, by electrical reactions, to the deltoid, biceps, *brachialis anticus* (Duchenne and Erb), *infraspinatus* (Duchenne) and supinators of the forearm (Erb) has been widely accepted, but not corroborated. It is very likely that sufficient traction on the head at birth to rupture the brachial plexus has never been applied in a successful delivery.

## (198) The Cytology of the Cerebro-Spinal Fluid in Mental Disease.

G. L. Brunton (*Journ. Mental Science*, October, 1919) emphasizes the importance of an examination of the cerebro-spinal fluid in mental disease and sees in it a valuable aid to diagnosis. In his hands such examination gave positive results not only in general paralysis, but in various other conditions, including mania, melancholia, epileptic insanity, delusional insanity, *dementia praecox* and ordinary dementia. He regards Alzheimer's method as the best for the cytological examination of the cerebro-spinal fluid; cells can be differentiated in a way not hitherto possible and a fair quantitative count can be made. The cells of the greatest diagnostic importance are the plasma cell, the phagocytic and endothelial cell and the lymphocyte in excess. A high cell count with an excess of lymphocytes, together with the presence of plasma cells, is strong evidence of parasyphilitic lesion. To avert the after effects of lumbar puncture rest in bed is desirable.

**British Medical Association News.****SCIENTIFIC.**

A clinical meeting of the New South Wales Branch was held at the Lecture Hall, Royal Prince Alfred Hospital, Camperdown, on May 14, 1920, Dr. C. Bickerton Blackburn, O.B.E., the President, in the chair.

Dr. George E. Rennie exhibited three patients suffering from forms of muscular paralysis. The first patient was a man, aged 43 years, who had followed the calling of a seaman for the greater part of his life. With the exception of an attack of scarlet fever at the age of 16, this man had previously not suffered from any illness. Shortly after the attack of scarlet fever he had met with an accident to his foot. Dr. Rennie emphasized the fact that this accident produced a considerable amount of pain in the foot, which lasted for a long time. He had served as a donkey-man for several years and arrived in Australia about five years ago. During the strike of 1917 he had lost his employment and suffered considerable hardship as a consequence. He had been compelled to take on harder work as a stoker and stated that he was much depressed as a result. A little later he began to suffer from pains in the arms and legs. During the course of his work his arms were frequently burnt without him being aware of it. The condition got gradually worse and ultimately the patient was compelled to give up his work. He complained of pain and weakness. Six months later he was admitted to the Mental Hospital because he was despondent and because he was suffering from insomnia. There were sores on his hands which were not painful. On examination, it was found that there was widespread dissociation of sensation. This was especially noticeable about the head. There was no actual atrophy of the muscles of the arm, forearm or hand and all movements were natural, although very weak. The only motor disability detected was a wasting of the spinati muscles and of the muscles of the interscapular region. The top of the scalp was anaesthetic, but there was hyperesthesia over the temporal regions. The association of zones of hyperesthesia with areas of anesthesia in this region Dr. Rennie had seen in two cases during the last two or three years. The patient had difficulty in distinguishing tactile from painful impressions and in distinguishing between heat and cold. The reflexes were unaltered. There was a history of venereal infection 26 years ago and the Wassermann reaction was positive. Dr. Rennie regarded the case as one of syringomyelia.

The second patient was a man, aged 25 years, whose symptoms dated back four years. The progress of the disease had been very slow and the patient stated that during the past twelve months the condition appeared to him to be stationary. He had complained of weakness of the left hand and arm, which had spread to the right hand and arm, and of a spastic condition of his legs. There was marked wasting in the small muscles of the hand. The patient was unable to oppose the thumb to the individual fingers or to separate the fingers. There was no reaction to either galvanic or faradic stimulation. The muscles of both forearms were considerably wasted. There was a spastic condition of the legs, with exaggerated knee-jerks, well-marked ankle clonus and Babinski's phenomenon. The sphincters were unaffected. There was very marked loss of thermal sensation, not only in the forearms and hands, but also widely spread over the trunk. The patient was unable to distinguish between painful sensations and touch. Dr. Rennie pointed out that there was a considerable spinal curvature. The diagnosis lay between amyotrophic lateral sclerosis with interference of sensation and syringomyelia. Dr. Rennie gave reasons for adopting the latter diagnosis.

Dr. Rennie's third patient was 40 years of age. He was admitted to hospital on account of paralysis of the arms and hands, supposed to have been due to lead poisoning. It appeared, however, that the patient had not been exposed to poisoning by lead and that there were no signs supporting such a diagnosis. There was no lead line on the gums, nor had the patient suffered from lead colic. He had been at work up to December, 1919. The initial symptoms were aching pains in the wrists, forearms and arms as

far as the shoulders. Inability to move the arms followed soon afterwards and Dr. Rennie demonstrated the condition of the patient at the time of the meeting. The forearms and hands were entirely paralysed and there was slight flexion of the wrist on the forearm. There was wasting of the spinati, deltoids and other muscles of the shoulder girdle. The muscles reacted to faradism, but gave a very feeble response to the current. There had been some improvement under electrical treatment. Dr. Rennie pointed out that the causation of the muscular atrophy was quite obscure. There was nothing to support the suggestion of lead paralysis. The Wassermann reaction was negative and no other cause could be found.

Dr. J. Morton exhibited a patient with hydatid disease of the lung. He pointed out that the case was of interest both as regards diagnosis and as regards the method of treatment. The patient was attacked with severe pain in his right side about a month previously. This was followed by cough and some expectoration. He was seen by Dr. J. I. C. Cosh, who found that there was irregular fever and that there were signs of fluid at the base of the right lung, apparently a pleural effusion. By means of a small hypodermic needle Dr. Cosh withdrew a small quantity of clear, watery-looking fluid. It was so clear that he doubted its pleural origin. Bolling showed the absence of albumin. The patient was admitted to the Royal Prince Alfred Hospital and the diagnosis of hydatid was confirmed by X-ray examination. A marked degree of eosinophilia was found to be present. The radiographer made the diagnosis of a hydatid cyst, about the size of a cricket ball, situated apparently 3.75 cm. from the posterior surface of the right lung. The operation was performed under intra-tracheal anaesthesia. This appeared to be of great benefit. In the first place, it kept the lung from collapsing when the pleura was opened. In the next place, the positive pressure produced by it in the air passages probably prevented the escape of fluid into them when the cyst was pierced by an exploratory needle. Several attempts had to be made with the needle before the cyst was located. When the cyst was found, an entry was made with sinus forceps and the opening enlarged to admit the finger. The endocyst was easily removed and the cavity swabbed dry.

The chief interest of the operation was in the immediate closure of the chest wall on the lines of the method recently described by Dr. Corlette (see *The Medical Journal of Australia*, March 1, 1919, page 168). The operation wound was completely closed in layers. The subsequent progress of the case was most gratifying. On the second day the temperature rose to 38.3° C. and the patient coughed up a little blood. The cough then disappeared. The temperature and pulse became normal and the wound healed by first intention. In fact, the patient was practically well in a week and left the hospital within a fortnight of the operation.

This result was very striking, when compared with that of treatment by drainage. A parallel was found in the treatment of hæmorthorax from gunshot wounds. Their experience had been that when the chest was opened and drained, it usually became septic and the patient often died. If the chest were left alone, it remained aseptic, the blood was absorbed and the patient recovered. Dr. Morton pointed out that wounds of the lung apparently did not get infected by means of the air inspired. The air passages provided an exit for any exudation escaping into them. His experience of immediate closure of the wound in a few cases of abdominal hydatid disease had not been happy. In each case he had had to reopen the abdomen and to drain it.

Dr. J. I. C. Cosh, together with Dr. J. Morton, presented a patient with tetany following thyroidectomy for exophthalmic goitre. The right lobe of the thyroid gland had been removed and at the same time the left superior thyroid artery had been ligatured. The symptoms of hyperthyroidism had abated after the operation. Symptoms of tetany, however, had gradually developed and had become very troublesome. The operation had been performed one year and ten months previously. Although the attacks were less frequent and less severe than they were, the patient's condition was far from satisfactory. Tablets of para-thyroid substance had been administered by the mouth for about ten months without any apparent benefit.

Mr. Morton also showed three stones of interest. The first was a vesical calculus of very large size, the second

was a gall-stone which had caused obstruction and the third concretion he regarded as a stercolith.

Dr. E. H. Molesworth exhibited a child who had suffered from prurigo ever since he had been weaned at eight months. The lesions were situated principally on the upper and lower extremities, on the face and on the flanks. In places there was a purulent infection due to scratching. The femoral and axillary glands were enlarged. Dr. Molesworth pointed out that there were no essential differences between prurigo and papular urticaria of children. The former, however, was more obstinate, the rash occurred on the face and there was glandular enlargement. Prurigo was rare in Australia, but was common in Europe. The cause was said to be excessive carbohydrate in the diet. In Europe it was frequent, owing to the difficulty experienced by the poor of obtaining protein diet and the cheapness of carbohydrate diet. The treatment consisted in diminishing the quantity of carbohydrates given and in substituting an albuminous diet containing meat-juice, eggs and milk. For the excessive itching a local anaesthetic, such as 0.5% to 1% carbolic acid, calamine lotion or zinc cream were effective. He regarded the prognosis as good in Australia, as the proper diet could be obtained by all. The child had improved during the three weeks he had been under treatment, but was still pale and pasty.

Dr. Molesworth's second patient was a woman with a framboesiform syphilide of the face. The individual eruptions were warty and very similar to the lesions of yaws. There were a few macular lesions on the body. In order to demonstrate the unusual characters of the syphilide, Dr. Molesworth showed two other patients, one with late secondary lesions and the other with a giant papular syphilide.

He also showed a patient with extensive neurofibromatosis, often called Recklinghausen's disease. There were myriads of lesions scattered over the back and over the extremities. Dr. Molesworth called attention to a peculiar button-holing between the skin and the subcutaneous tissue. When the finger was applied to the periphery of the larger eruptions and pressed inwards, there was a feeling as if a hernia in the subcutaneous tissue existed. The patient had suffered from the affection for six years. Over the sacral region there was one large mass which was somewhat pendulous and which caused trouble. He was considering the advisability of having this mass treated surgically.

Dr. Molesworth then showed a man who was suffering from rodent ulcer. The growths had been very extensive and the condition was regarded by the surgeons as too extensive for operative treatment. The left eye had been entirely occluded and the edema had spread to the right lid. Dr. Molesworth had treated the man with X-rays. There had been a good reaction. In parts the pathological tissue had appeared to have fallen out. The cicatrization had followed rapidly. There was still some rodent tissue left, but the greater part of it had disappeared. The treatment had been begun on Christmas Eve. He had had about ten applications.

Dr. Molesworth then showed a woman suffering from rodent ulcer. Originally there was a cauliflower-like mass occluding the left eye and spreading over to the other side. The surgeons would not touch this patient. He had applied X-rays and had obtained a favourable reaction. The advancing edge of the growth had faded and had become flat. After five applications there were only two areas left in which rodent tissue could be recognized.

In the last place, Dr. Molesworth demonstrated a patient with *lichen planus*, because he found that this condition was frequently mistaken for syphilis. Not only were the appearances similar, but *lichen planus* reacted to anti-specific remedies. Although the lesions had faded considerably under treatment, he was able to demonstrate the peculiar bluish tint of the rash and the flat-topped and shiny characters of the efflorescences. They were polygonal in outline and, unlike syphilitic eruptions, they produced considerable itching. Patients affected with *lichen planus* showed strong emotional instability. Dr. Molesworth's patient had during the past seven months practically lost his vision through an affection of the cornea and was greatly depressed. Arsenic was of little value in the treatment of these conditions, while mercury in full doses yielded good results. He pointed out that there was a further accidental similarity to syphilis in this par-

ticular case. In the mucous membrane inside the cheek there were some dead-white patches.

In the absence of Mr. F. P. Sandes, Dr. Blackburn read some brief notes of a patient who had had his Gasserian ganglion removed for trigeminal neuralgia.

Dr. C. Bickerton Blackburn, O.B.E., presented a man who was suffering from cerebro-spinal syphilis. Up to twelve months ago he was employed at a tinsmith's shop and was bright and cheerful. Later he became morose and depressed and ptosis appeared on the right side. There were signs of meningeal involvement. The Wassermann reaction was positive. Under iodide of potash and arsene-benzol the patient had improved greatly.

Dr. Blackburn's second patient had been in hospital in December, 1918, for a double inguinal and umbilical hernia. Later he was again admitted with ascites and cirrhosis of the liver. Paracentesis had been carried out and some fluid had been withdrawn. It was then felt that there were hard swellings in the region of the umbilicus, apparently beneath the abdominal wall. There was also induration in the region of the gall-bladder, while the duodenum appeared to be abnormally fixed. At the time when the radical cure of the herniae had been performed, a tumour mass had been discovered at the distal end of the sac and had been regarded as tubercular. Dr. Blackburn raised the question of diagnosis and was inclined to regard the condition rather as a neoplasm than as a tubercular peritonitis.

Dr. Mona Ross exhibited a series of pathological specimens, including an acute Meckel's diverticulum, a ruptured and an unruptured ectopic gestation, a calcium phosphate calculus removed during a supra-pubic cystotomy performed as a preliminary operation to prostatectomy, the spleen from a person suffering from Hodgkin's disease, a kidney affected by tubercular disease and another with pyelo-nephritis due to a Gram-negative coliform organism, a hard fibroma of the male breast and a spindle-celled sarcoma of the hand.

Professor A. E. Mills exhibited the brain of a child, aged one year and nine months. The child had been admitted to hospital a few days previously. She was unable to hold up her head or to sit up. It was doubtful whether she could see. At any rate she had no power to fix an object with her eyes. There was no nystagmus, but a continuous and apparently purposeless movement of the eyes. The characteristic feature of the case was an absence of any definite active posture, if the tendency to extend the head or to burrow it into the pillow be excepted. Otherwise the child's posture was conditioned by the bed and pillows on which she lay. There was marked asthenia and atonia and the movements of the upper limbs were ataxic. The child died of bronchopneumonia.

The *post mortem* examination revealed an extraordinary want of development of the lateral lobes of the cerebellum. (A full description of the cerebellum will be given in a subsequent issue.) This mal-development was responsible for the absence of active posture, the asthenia and the atonia.

Professor Mills also exhibited a tumour of the pituitary. The patient had been admitted in a state of unconsciousness. It was stated that the patient had been ill for a considerable time and that he had had a fit. It was found that the patient was blind, as the result of double optic atrophy. This was due to some invading process and not to increased intra-cerebral pressure. There was a slight suggestion of hemiparesis. Professor Mills claimed that, in view of the few signs, it was excusable that no diagnosis had been made. A tumour had been found in the pituitary after death. In discussing the case he raised the question as to why in some cases of intracranial tumours the cerebro-spinal fluid was in excess and in others it was not increased in quantity. Similarly, he sought for an explanation for the presence of double papilledema in some but not in other cases of cerebral tumours and for the presence of headache in some cases and none in others. He stated that cholin had the remarkable power of stimulating the choroid plexus to excessive activity. It was probable that where there was extensive destruction of cerebral tissue and liberation of considerable quantities of cholin-like substance, there would be an increase in the flow of the cerebro-spinal fluid. Papilledema resulted from an increased intracranial pressure, due to excessive cerebro-spinal fluid and to increased pressure on the oph-

thalamic vein from the same cause. Similarly, the hypersecretion of cerebro-spinal fluid led to the appearance of headache.

Dr. Hugh R. G. Poate showed two specimens of ruptured gastric ulcer. The one was an acute ulcer and the other a chronic one. In both cases the ulcer had been excised and the stomach wall sutured. Recovery had followed in each case.

He also showed a large, simple tumour of the breast. The woman was in the early thirties. She had noticed the growth for five months. The glands in the axilla had become enlarged. In view of the probability of the growth being malignant, the patient was advised to submit to operation. An incision was made into the breast and it was found that approximately one-third of the gland was involved. Dr. Poate had therefore performed the usual radical operation. The pathologist had reported that the growth was a fibroadenoma.

The third specimen shown was a ruptured appendix. When the abdomen was opened the appendix looked like a portion of the small intestine. A perforation was found at its junction with the caecum. This area was excised and the wall of the caecum was sutured in layers; the patient was doing well.

Dr. Poate also showed half a kidney containing a large tumour. The patient had noticed a rapidly increasing lump in his abdomen for over six months, but had not troubled to seek advice. He was then seized with an attack of indigestion and consulted a doctor. He was referred to the Royal Prince Alfred Hospital. It was found that the tumour, which was of enormous size, had displaced all the abdominal viscera forward. Dr. Poate had found it possible to shell the tumour out of its bed with comparative ease. The tumour was so large, however, that its delivery presented grave difficulties. This was effected after the incision had been enlarged. The great cavity left was drained and the man had done well. The tumour proved to be a spindle-celled sarcoma.

Dr. Poate's last specimen was a gauze sponge recovered from the abdomen of a woman who had been operated upon elsewhere six months earlier. Shortly after the operation the patient complained of pain. A fluctuating mass was found and the provisional diagnosis of suppurating hydatid was made. The tumour was marsupialized, the pus evacuated and a gauze sponge was found in the cavity.

The Honorary Treasurer of the New South Wales Branch begs to acknowledge the receipt of 218 donations to the fund for erecting an arch to welcome His Royal Highness the Prince of Wales of 21s. each and one of 10s. 6d., making a total of £229 8s. 6d. to date.

The first tender received for the arch was £1,010. The plan was then modified and the tender reduced to £640. Finally it was so altered as to bring the price down to £500. The Council is pledged to this expenditure and it is hoped that the members of the Council will not have to bear half the cost out of their own pockets, especially as they were largely influenced in going on with the matter by a resolution passed at a general meeting of the Branch. So far only 219 members out of 1,200 have contributed, little more than 18%. An urgent appeal is again made to those members who have not yet sent in a donation, to do so without delay.

W. H. CRAGO,  
Honorary Treasurer, New South Wales Branch.

The undermentioned have been elected members of the New South Wales Branch:—

C. R. Smith, Esq., M.B., Ch.M., 1920 (Univ. Sydney), "Newton," Hipwood Street, North Sydney.  
B. W. Stevenson, Esq., M.B., Ch.M., 1920 (Univ. Sydney), "Elma," William Street, Randwick.

### Congress Notes.

The date of the Australasian Medical Congress is August 23-28, 1920.

The official address of the Congress is: The Honorary Secretary, 11th Session, Australasian Medical Congress, B.M.A. Building, Adelaide Street, Brisbane.

The following are the Local Secretaries in the several States:—

*New South Wales:* Dr. F. Brown Craig, Macquarie Street, Sydney.

*Victoria:* Dr. A. Leo Kenny, Collins Street, Melbourne.

*South Australia:* Dr. F. S. Hone, North Terrace, Ade-

laide.

*Western Australia:* Dr. W. Tréthowan, 267 St. George's

Terrace, Perth.

*Tasmania:* Dr. E. Brettingham Moore, Macquarie Street, Hobart.

*New Zealand:* Dr. C. E. A. Coldicutt, 82 Simonds Street, Auckland.

*Queensland:* The Honorary General Secretary and the Coadjutor Secretary, c/o. Queensland Branch, British Medical Association, Adelaide Street, Brisbane.

The following is a list of the Honorary Secretaries of the Sections:—

(i.) *Medicine:* Dr. Andrew Stewart, Wickham Terrace, Brisbane.

(ii.) *Surgery:* Dr. Donald A. Cameron, Wickham Terrace, Brisbane.

(iii.) *Obstetrics and Gynaecology:* Dr. Lillian V. Cooper, George Street, Brisbane.

(iv.) *Pathology and Bacteriology:* (In place of Dr. A. W. Dean) D. J. V. Duhig, Wickham Terrace, Brisbane, and Dr. A. Breinl, Institute of Tropical Medicine, Townsville.

(v.) *Public Health:* Dr. J. S. C. Elkington, Federal Quarantine Department, Brisbane.

(vi.) *Ophthalmology:* Dr. J. Lockhart Gibson, Wickham Terrace, Brisbane.

(vii.) *Otology, Rhinology and Laryngology:* Dr. W. N. Robertson, Wickham Terrace, Brisbane.

(viii.) *Diseases of Children:* Dr. A. Jefferis Turner, Wickham Terrace, Brisbane.

(ix.) *Naval and Military Medicine and Surgery:* Dr. G. P. Dixon, C.B.E., Wickham Terrace, Brisbane.

(x.) *Neurology and Psychological Medicine:* Dr. T. H. R. Mathewson, Brunswick Street, New Farm, Brisbane, and Dr. J. R. Nicoll, Hospital for Insane, Toowoomba.

(xi.) *Dermatology and Radiology:* Dr. V. McDowell, Preston House, Queen Street, Brisbane.

Members are particularly requested to announce their intention to read papers to the Sectional Secretaries concerned and not to the State Secretaries. The papers should also be forwarded to the Sectional Secretaries.

### Accommodation.

We are informed that the Executive Committee has overcome the difficulties concerning the accommodation of members who will be accompanied by ladies. Comfortable quarters for these members are assured.

### General Arrangements.

A communication from the Prime Minister of Australia has been received to the effect that Sir Ronald Ross is unable to accept the invitation extended to him to attend the Congress as a guest of the Commonwealth. In regard to Surgeon-General Gorgas, there appears to be little prospect of his being able to attend. Surgeon-General Gorgas left Quebec for London and arrived on May 16, 1920. He proposes to leave England on July 1, 1920, with the British Medical Mission for the Gold Coast Colony. He anticipates that he will return to New York in November and intends to proceed to Peru for two years.

### THE DIPLOMA OF VICTOR RICHARD RATTEEN.

The Medical Council of Tasmania issued a short communication to the public press on May 18, 1920, after the Council had considered the question of the validity of the diploma in virtue of which Victor Richard Ratten obtained registration in 1907. The communication is as follows:—

After full discussion and consideration of the evidence before it, which has not been personally refuted by Dr. Ratten, the Council finds that several of the charges made against Dr. Ratten by the British Medical Association have been sustained and instructs their solicitor and

counsel to formulate charges to be laid before the Supreme Court of Tasmania.

We note that the Council, after consideration of all the evidence, is prepared to formulate charges. The Tasmanian Branch of the British Medical Association has not on any occasion charged Victor Richard Ratten in any way. The Tasmanian Branch called the attention of the Medical Council to the apparent irregularities of the diploma and asked for an inquiry into its validity or otherwise.

## Naval and Military.

### HONOURS.

It is announced in the *Commonwealth of Australia Gazette*, No. 42, of May 20, 1920 (from the *London Gazette* of May 8, 1920), that His Majesty the King has given unrestricted permission to Captain Oswald Ryle Horwood, Australian Army Medical Corps, to wear the *Médaille du Roi Albert*, conferred by His Majesty the King of the Belgians.

### APPOINTMENTS.

The following appointments, etc., have been notified in the *Commonwealth of Australia Gazette*, No. 40, of May 13, 1920:—

#### Australian Military Forces. First Military District.

##### To be Major—

A. J. Kelsey.

#### Second Military District.

##### To be Majors—

E. H. M. Stephen.

E. L. Hutchinson, D.S.O.

W. J. Connolly.

##### To be Captains—

G. M. Faithful.

J. G. M. Beale.

R. J. Haynes.

D. A. A. Davis.

P. A. Morris.

W. Wood.

C. G. Templeman.

R. S. Scott.

U. L. Bourke.

E. S. Morris.

L. Bamber.

#### Third Military District.

##### To be Lieutenant-Colonel—

J. M. Y. Stewart, C.B.E., D.S.O..

##### To be Majors—

A. Cook, O.B.E..

M. V. Southey.

H. W. F. Mitchell.

R. D. Bartram, M.C..

W. H. Collins, D.S.O..

J. S. Mackay, M.C..

##### To be Captains—

A. P. Lawrence, M.C..

E. I. Littlejohn.

A. E. Burke-Gaffney.

A. H. Baldwin.

S. W. Shields.

H. Crawford.

W. A. Graham.

R. J. Murphy.

W. S. Stephens.

H. W. Savile.

A. J. Day.

The following appointments, etc., have been announced in the *Commonwealth of Australia Gazette*, No. 42, of May 20, 1920:—

#### Australian Imperial Force.

##### Second Military District.

Captain S. G. Whitfield, Australian Army Medical Corps, having resigned, his appointment in the Australian Imperial Force is terminated in England on 23rd January, 1920, but to take effect from 6th February, 1920.

**Third Military District.**  
Captain S. W. Shields, Australian Army Medical Corps, having resigned, his appointment in the Australian Imperial Force is terminated in England on 19th January, 1920, but to take effect from 2nd February, 1920.

##### Fourth Military District.

Captain K. W. Bollen, Australian Army Medical Corps, having resigned, his appointment in the Australian Imperial Force is terminated in England on 23rd February, 1920, but to take effect from 28th April, 1920.

##### Australian Military Forces.

##### Second Military District.

*Australian Army Medical Corps Reserve*—  
Honorary Major E. Sinclair to be Honorary Lieutenant-Colonel, 1st April, 1920.

##### Third Military District.

*Australian Army Medical Corps*—  
The resignation of Captain F. B. Crawford of his commission is accepted, 26th March, 1920.

##### Fourth Military District.

*Australian Army Medical Corps Reserve*—  
Honorary Major A. H. Bennett to be transferred to the Retired List, with permission to retain his rank and wear the prescribed uniform, 1st April, 1921.

The resignation of Honorary Captain D. R. W. Cowan of his commission is accepted, 1st April, 1921.

Honorary Captains J. Milne, C. T. Abbott and J. W. Yeatman to be retired under the provisions of Australian Military Regulation 158 (h).

##### Fifth Military District.

*Australian Army Medical Corps Reserve*—  
The notification respecting the termination of the temporary rank of Major held by Honorary Captain S. C. Moore, which appeared in Executive Minute No. 78/1920, promulgated in *Commonwealth of Australia Gazette*, No. 20, dated 19th February, 1920, is cancelled.

### MEDICAL OFFICERS' RELIEF FUND (FEDERAL).

The Trustees acknowledge, with thanks, receipt of the following donations and promises to the above-named Fund.

#### (SEVENTEENTH LIST.)

#### New South Wales.

	£	d.	s.
Dr. S. H. Hughes .. .. .. ..	60	0	0
Dr. A. Watson Munro .. .. .. ..	21	0	0
Drs. J. and W. Kerr .. .. .. ..	10	0	0
Dr. R. T. Michell .. .. .. ..	5	0	0
Total to May 25, 1920, £11,758 18s. 10d.			

### THE NEW SOUTH WALES BUSH NURSING ASSOCIATION.

The New South Wales Bush Nursing Association was founded in 1911 for the purpose of providing trained nurses for those parts of the State of New South Wales which are far from medical and nursing aid. It was the intention of the founders that the bush nurses should give assistance and advice in regard to minor ailments, in the hope that steps might be taken to prevent more serious disease. The bush nurse attends women in their confinements and replaces the medical practitioner both in the pre- and in the post-natal period. She is supposed to diagnose cases of measles, scarlet fever, diphtheria and other infectious processes, to direct the isolation of the patient and to take measures for arresting the spread of the disease. The founders further anticipated that the nurse would be able to extend skilful treatment in affections of children's eyes and thus to save the eyesight of the little sufferers. She is supposed to give first-aid in cases of accident and when the injury necessitates it, to accompany the patient for fifty miles or more to the nearest doctor or hospital.

The arrangement has been established that the salary and maintenance of each nurse is provided out of funds collected locally. In practice, however, assistance has often to be given by the Central Council. Formerly every nurse was required to possess a certificate for general nursing, in addition to an obstetric certificate. Owing to the shortage of nurses during the period of the war, the double certificate was not obtained in all cases. In the annual report for the year ended March 31, 1920, the Council expresses the hope that it would again be able to enforce the rule concerning the double certificate, since the acute shortage of nurses no longer obtains. Information is given concerning the distribution of nurses to outlying centres and more particularly concerning the changes which have been effected during the year. A new set of rules for the use of branches has been drawn up. The Council expresses the hope that the district committees will adopt these rules, so that greater uniformity in the work may be secured.

Reference is also made to a new suggestion which was acted upon. The management of "Bush Week" invited the Association to be represented at the exhibition held at the Town Hall in Sydney. Some excellent exhibits were prepared and the stand proved itself to be a centre of attraction.

Among the changes in the Council of the Association are mentioned the appointment of Dr. Harvey Sutton, the Principal Medical Officer of the Department of Public Instruction. Dr. Sutton fills the position rendered vacant by the death from influenza of Dr. C. Saville Willis. On his return from active service, Dr. R. G. Millard, C.M.G., C.B.E., rejoined the Council. One of the Government representatives, Mr. McDonald, resigned and his place was transferred to Mr. B. J. Doe, M.L.A.

The total income for the year of the Central Council was £1,466, while approximately £3,300 were collected by the Local Committees. A balance of £253 was handed over from the previous year's account, while at the end of the year the Treasurer showed a balance of £447. The Council appeals for more liberal support from the charitable public.

The will of the late Professor Sir Thomas Anderson Stuart has been sworn for probate purposes at £42,754. His effects and the income from his estate are left to his widow. In the event of her re-marriage, the income is to be reduced to one fourth. The remaining three-fourths of the income would then be held in trust for his four sons. In the event of the determination of all the trusts, the estate is to be sold and converted and the income is to be divided in equal shares between Moorehead's Hospital, Dumfries, the Royal Prince Alfred Hospital, Sydney, and the Industrial Institute for the Blind, Sydney. The testator desired that a marble bust of himself should be given to the University of Sydney, together with the sum of £50 to provide a suitable pedestal for the bust. He suggested that it be placed in the entrance hall of the Medical School and not among the busts now adorning the corridors.

## Hospitals.

### THE ADELAIDE CHILDREN'S HOSPITAL.

The annual report of the Board of Management of the Adelaide Children's Hospital for the year ended September 30, 1919, contains an urgent appeal for greater support to this admirable institution. The appeal is based on the increasing cost of all necessities and on the vital need for the preservation of child life, in view of the fearful losses sustained by the Empire during the period of the war.

Although no case of influenza occurred among the patients, it was held to be advisable to exclude visitors from the institution during the period of the epidemic and also to suspend the May-day celebrations for the year. The Board expresses its indebtedness to the members of the honorary staff and of the nursing staff for their continued and excellent services.

On the first day of the year there were 85 patients still under treatment. There were 1,109 patients admitted during the year, while on the last day 77 patients were under treatment. The number of those discharged was 1,024 and the

number of deaths was 93. This yields a general mortality of 8.35%. The average number of patients in the hospital at one time was 87.

From the statistical tables published, it appears that diphtheria was the commonest disease among the patients. The total number of children suffering from diphtheria or diphtheritic paralysis was 196, of whom 20 died. This represents a case mortality of 10.2%. There were 85 cases of pneumonia, with 18 deaths, which is equivalent to a case mortality of approximately 15.3%. The number of children admitted for gastro-enteritis was 63. Seventeen of these little ones died, which yields a case mortality of practically 27%. There were 13 cases of rheumatism, two of acute endocarditis and six of valvular disease of the heart, while 13 patients were suffering from one or other form of venereal disease. Unfortunately, no information of the medical details of these diseases is given.

The number of patients attending the Out-Patients' Department was 1,176. The total number of patients sent to the Queen Victoria Home for Convalescent Children on Mount Lofty was 67. Among the other statistics, a list of operations performed during the year is appended.

A paragraph of the report is devoted to the work done in the Bacteriological Department. The greater part of the diagnosis examinations is conducted for patients within the Hospital, while some diagnosis work is done for outside practitioners. Both the X-ray Department and the Massage Department appear to have yielded a considerable amount of activity. The report closes with a sympathetic reference to the death of Dr. A. Campbell Magarey.

## Obituary.

### THOMAS WILLIAM BROWN.

On April 7, 1920, Thomas William Brown and his beloved wife ended their earthly career together. The sympathy of the medical profession will be extended to their only daughter in her double grief.

Thomas William Brown was born at Jackanbandah, Victoria, on April 2, 1867. He received his earlier education at the Melbourne Church of England Grammar School, whence he proceeded to the Melbourne University. He qualified in medicine and surgery in 1893. His special inclination towards the study of skin diseases led him to spend a term after graduation at the London Skin Hospital.

On his return to Australia in 1896, Thomas William Brown engaged in practice at Broken Hill for some years, during which period he was attached with the Broken Hill and District General Hospital as a member of the honorary medical staff; he also held the appointment of Medical Officer to the Broken Hill Proprietary Company.

He seized an opportunity of travelling far and wide in the tropical areas of Australia. In the course of these journeys he acquired many interesting native weapons and other curios. This collection was a valuable one and provided interest to both himself and his friends. While in tropical areas he took up some bacteriological work and displayed ingenuity and resource in this direction.

In the year 1907 he removed to Corryong, where he practised until 1912. For some years he was employed in the clinical branch of the Lunacy Department at the Hospital for the Insane, Kew. Although then 47 years of age, Thomas William Brown was one of the first to answer the call to service on the outbreak of war. He was given charge of the Glenroy military hospital and after a period of service in this capacity, he was sent on military duty to Egypt and thence to England. On his return from abroad he was appointed Senior Medical Officer at Broadmeadows Camp and still later he fulfilled similar duties at the Macleod Military Sanatorium.

Having thus achieved a long and creditable military record, Thomas William Brown resumed civil work at Fairfield, Victoria, a few months before his death, which supervened on a short illness.

Thus has "gone west" one whose abilities were always wisely exercised in a sphere which provides ample scope to wit, general practice, and one who has the highest claim on the respect and admiration of his colleagues—that he served his country in its time of stress.

## WALTER BLAKE NISBET.

Walter Blake Nisbet, whose death on May 7, 1920, we recorded with regret in a recent issue, was born in the County of Sunderland, England, in the year 1862. He was the younger son of the late W. D. Nisbet, at one time Engineer for Harbours and Rivers of Queensland. At the age of 12 years Walter Blake Nisbet entered the Brisbane Grammar School. He was a diligent and successful scholar. At the end of his term at the Grammar School he passed the senior examination and headed the list. He was awarded a bursary eligible at the Edinburgh University. He left Australia in 1880 and became a medical student at the Edinburgh University. In 1885 he took the degrees of Bachelor of Medicine and Master of Surgery with first-class honours. He then served as House Surgeon at the Edinburgh Royal Infirmary and at Chalmers' Hospital in Lauriston Place. From Edinburgh he moved to Paris, where he undertook some post-graduate work. On his return to England he entered into arrangements with a practitioner in Yorkshire to act as his assistant, a position which he filled for two or three years. In 1888 he returned to Australia and settled in Townsville. In 1900 he joined the Fourth Queensland Bushmen of the Australian Contingent and served in South Africa, both in the field and as surgeon in No. 2 General Hospital, Pretoria. He gained the war medal with four clasps. At the end of this period of service he returned to Australia and was registered in October, 1902, in Victoria. For two years he practised in the neighbourhood of Ballarat, but the north had greater attraction for him and at the end of this period he returned to Townsville, where he remained until his death.

Walter Blake Nisbet held the positions of Medical Officer of Health to the city of Townsville and for Thuringowa Shire, of Sub-District Naval Medical Officer and up to 1915 of Quarantine Officer. He was intensely interested in matters connected with tropical medicine. He visited the East on three occasions to extend his knowledge on these subjects. In 1916 he attended the Far East Medical Associations Congress at Saigon. He possessed the most up-to-date X-ray plant in North Queensland. He equipped a pathological and bacteriological laboratory and employed a laboratory assistant who had been trained at the Sydney University. In the earlier years of his practice Walter Blake Nisbet undertook major surgery, as well as general practice. More recently he relinquished his surgical work and confined himself to his general practice, in addition to radiological and pathological work. In these two departments he did much for other practitioners in the North.

Walter Blake Nisbet was well known as an ardent antagonist to the policy of white Australia applied to North Queensland. He was occupied up to the time of his death in writing a paper on the subject, which was to have been read at the Australasian Medical Congress. He spent his holidays to a large extent in the laboratories and universities of the South.

Death overtook him with unusual rapidity. On May 7, 1920, he saw some of his patients at his surgery in the morning. Two hours later he had passed away. A very large number of people of Townsville and of the north of Queensland held him in honour, respect and affection and after his death paid a last tribute to his memory. It is widely felt that those who knew him socially and professionally, have lost a real friend and skilful medical adviser. He leaves a widow and a family of four. Dr. A. T. H. Nisbet, one of his sons, is in practice in Townsville and the youngest is a midshipman on H.M.S. *Renown*.

## Correspondence.

## THE SOLUTION OF THE PURE MILK PROBLEM.

Sir: As a city grows, it becomes more and more difficult to obtain pure fresh milk suitable for infant feeding. The difficulty is greatest in summer weather and in hot climates. I need not discuss the scientific problem; for that has been solved. Unfortunately, the solution is of no value unless it be put into practice and the real problem is not scientific, but commercial. Pure milk can be supplied by philanthropic

associations, but this does not meet the whole need. It might be supplied by Government or municipal bodies, but the objections to this are so obvious that I need not state them. Compulsory inspection of dairies, supervision of milk supplies, issue of licences to milk vendors, etc., are all steps in the right direction; but to obtain by compulsion a raising of the standard of all milk supplied to the public in all seasons and all weathers to that which would be considered by experts suitable for infant feeding, is impracticable and, I believe, unnecessary.

There remains one method, the sale under State supervision, but in the ordinary course of trade, of milk certified as suitable for infant feeding. No compulsion would be exercised on any dairyman to supply certified milk. But if he elected to do so, he would have to obtain a licence stating that his milk came up to a fixed chemical and bacteriological standard. That it did actually do this would be ascertained by frequent laboratory analyses and should it at any time fail to attain the standard, the licence would be revoked. Under this system the purchaser would know what he was buying and the vendor would reap his reward in an increase of business and probably in a slight increase in price.

The sale of certified milk would be voluntary. There would be nothing to prevent any or all dairymen from supplying it. There would also be nothing to prevent the sale of milk not certified to be of this high standard as under present conditions.

Yours, etc.,

A. JEFFERIS TURNER, M.D., Lond., D.P.H., Camb.  
Brisbane, May 18, 1920.

## CUPRASE FOR CANCER

Sir: I have treated four cases and have two at present time under treatment. My results were:—

CASE I.—Gentleman, *et. 54*, advanced sarcoma of tongue, could not lie down at night. Stated "had not slept for six months owing to severe pain and difficult breathing." After 10 injections, pain had disappeared, could lie down and sleep peacefully. This remained so until his death from exhaustion some few months later. I may say he had undergone three operations and was a hopeless wreck when I began treatment. Growth appeared to remain stationary.

CASE II.—Lady, *et. 46*, diagnosed by hospital and several medical men as "cancer of stomach"; extreme loss of weight and great pain—was practically bedridden for four months. After 30 injections is now in good health, free of all pain, and does all her own house work. Pain disappeared after 8 injections and began to put on weight, which has continued.

CASE III.—Lady, *et. 56*, cancer of stomach, marked loss of weight and great pain. Pain relieved after eight injections. Patient died from exhaustion. She was too far gone when treatment was commenced.

CASE IV.—Lady, *et. 43*, epithelioma of cervix, "cauliflower growth," which Dr. Curgenvan, of Paddington, and myself thoroughly examined under an anaesthetic and decided it was too far advanced for operation. After 16 injections of cuprase the cauliflower growth had practically disappeared; it broke off in small pieces and caused a great deal of pain and severe haemorrhage, but her general condition improved. Unfortunately she died from acute enteritis (so I have been informed).

I have two cases under cuprase treatment at present:—

(1) Lady, *et. 42*. Epithelioma of cervix (involving portion of vaginal wall). Has had 16 injections, has gained weight and general condition has improved, but it is too early to venture an opinion.

(2) Gentleman, *et. 57*. Epithelioma of palate, etc.. Has had three operations and was suffering great pain. Has had 12 injections. Pain had gone and general condition improved. Mouth condition appears to be stationary.

I give one injection every four days, but if pain is markedly increased a few hours after treatment, I allow five or six days to elapse between each injection. In my opinion there can be no set rule.

Yours, etc.,

A. REGINALD MCLEOD,  
143 Macquarie Street, Sydney,  
May 22, 1920.

### Books Received.

**THE DIAGNOSIS OF NERVOUS DISEASES,** by Sir James Stewart, M.D., F.R.C.P.; Fifth Edition, revised and enlarged; 1920. London: Edward Arnold; Royal 8vo., pp. 584, with 298 illustrations. Price, 30s. net.

**THE RADIOGRAPHY OF THE CHEST, Volume I.: PULMONARY TUBERCULOSIS,** by Walker Overend, M.D., B.Sc.; 1920. London: William Heinemann (Medical Books), Ltd. Demy 8vo., pp. 119, with 9 line diagrams and 99 radiograms. Price, 17s. 6d. net.

### Medical Appointments.

Dr. R. Marshall Allan (B.M.A.) has been appointed Honorary Physician to the Lady Bowen Hospital, Brisbane.

Under the provisions of the *Health Act, 1898*, of South Australia, Dr. David H. Young has been appointed an Officer of Health.

The Commission of Public Health of Victoria has approved of the appointment by the Council of the Shire of Dumbulla of Dr. Norman M. Simpson (B.M.A.) as Medical Officer of Health for the East Riding of that Shire.

The appointment of Dr. G. Atkinson (B.M.A.) as Public Vaccinator at Learmonth and of Dr. C. C. Marshall (B.M.A.) at Balmoral, Victoria, is announced in the *Victoria Government Gazette*.

Dr. W. R. W. James has been appointed Junior Medical Officer to the Hospital for Mental Diseases and Inspector-General of the Hospitals Department of South Australia. The appointment dates from November 1, 1919.

The appointment of Dr. F. C. Thompson (B.M.A.) as Medical Officer of Health to the Bayswater Road Board of Western Australia, has been approved.

### Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xxii.

University of South Africa, Johannesburg: Professor of Pharmacology.

Hospital for Sick Children, Brisbane: Various Vacancies on the Honorary Medical Staff.

Hospital for Sick Children, Brisbane: Resident Medical Officer. Royal North Shore Hospital: Honorary Assistant Radiographer.

### Medical Appointments.

#### IMPORTANT NOTICE.

Medical practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429 Strand, London, W.C.

Branch.	APPOINTMENTS.
VICTORIA.  (Hon. Sec., Medical Society Hall, East Melbourne.)	All Friendly Society Lodges (other than the Grand United Order of Oddfellows and the Melbourne Tramways Mutual Benefit Society), Institutes, Medical Dispensaries and other Contract Practice. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND.  (Hon. Sec., B.M.A. Building, Adelaide Street, Brisbane.)	Australian Natives' Association. Brisbane United Friendly Society Institute. Cloncurry Hospital. Stannary Hills Hospital.

Branch.	APPOINTMENTS.
SOUTH AUSTRALIA.  (Hon. Sec., 3 North Terrace, Adelaide.)	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIA.  (Hon. Sec., 6 Bank of New South Wales Chambers, St. George's Terrace, Perth.)	All Contract Practice Appointments in Western Australia.
NEW SOUTH WALES.  (Hon. Sec., 30-34 Elizabeth Street, Sydney.)	Australian Natives' Association. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
NEW ZEALAND: WELLINGTON DIVISION.  (Hon. Sec., Wellington.)	Friendly Society Lodges, Wellington, New Zealand.

### Diary for the Month.

- June 2.—Vic. Branch, B.M.A.
- June 4.—Q. Branch, B.M.A.
- June 8.—Tas. Branch, B.M.A.
- June 8.—N.S.W. Branch, B.M.A., Ethics Committee.
- June 10.—Vic. Branch, B.M.A., Council.
- June 10.—Q. Branch, B.M.A., Council.
- June 11.—N.S.W. Branch, B.M.A., Clinical.
- June 11.—S. Aust. Branch, Council.
- June 15.—N.S.W. Branch, B.M.A., Executive and Finance Committee.
- June 16.—W. Aust. Branch, B.M.A.
- June 22.—N.S.W. Branch, B.M.A., Medical Politics Committee; Organization and Science Committee.
- June 24.—S. Aust. Branch, B.M.A.
- June 24.—Q. Branch, B.M.A., Council.
- June 25.—N.S.W. Branch, B.M.A.
- June 30.—Vic. Branch, B.M.A.
- July 2.—Q. Branch, B.M.A.
- July 6.—N.S.W. Branch, B.M.A., Council (Quarterly).
- July 7.—Vic. Branch, B.M.A.
- July 8.—Q. Branch, B.M.A., Council.
- July 9.—N.S.W. Branch, Clinical.
- July 9.—S. Aust. Branch, B.M.A., Council.

### EDITORIAL NOTICES.

Manuscripts forwarded to the office of this journal cannot under any circumstances be returned.  
Original articles forwarded for publication are understood to be offered to *The Medical Journal of Australia* alone, unless the contrary be stated.  
All communications should be addressed to "The Editor," *The Medical Journal of Australia*, B.M.A. Building, 30-34 Elizabeth Street, Sydney. (Telephone: City 2844.)